SAMSUNG

SYSTEM AIR CONDITIONER

	INDOOR UNIT	OUTDOOR UNIT
Basic :	FH070EAMT	UH070EAMT
Model :	FH052EAMC	UH052EAMC
	FH070EAMC	UH070EAMC
Model code:	FH052EAMC	UH052EAMC
	FH070EAMC	UH070EAMC

SERVICE Manual

AIR CONDITIONER

FH052/070EAMC

UH052/070EAMC

THE FEATURE OF PRODUCT

- Auto Changeover
- Long Lasting Outdoor Unit
- Free Installation
- Various useful functions

For more information, Please access to our service web site (http://itself.sec.samsung.co.kr)

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1. Precautions

1-1 Installing the air conditioner

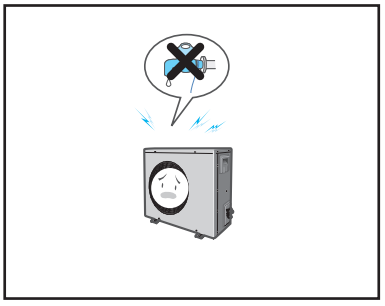
- Users should not install the air conditioner by themselves.
  Ask the dealer or authorized company to install the air conditioner except the window-type air conditioner in U.S.A and Canada.
- If you don't install the air conditioner properly, it may cause a fire, a water leakage or an electric shock.
- You must install the air conditioner according to the national wiring regulations and safety regulations.
- Install the indoor unit higher than 2.5m from the floor to avoid the injury caused by the operation of the fan.
  (except the window-type air conditioner)
- The manufacturer is not responsible for any accidents or injury caused by an incorrect installation.
- When installing the built-in type air conditioner, keep all electric cables such as the power cable and the connection cord in pipes, ducts, or cable channels to protect them from the danger of impact or any other incidents.

1-2 Power supply and circuit breaker

- If the power cord of the air conditioner is damaged, it must be replaced by the manufacturer or a qualified person in order to avoid a hazard.
- The air conditioner must be plugged into an independent circuit if applicable or connect the power cable to the auxiliary circuit breaker.
  An all pole disconnection from the power supply must be incorporated in the fixed wiring with a contact opening of >3mm.
- Do not extend an electric cord to the air conditioner.
- The air conditioner must be plugged in after you complete the installation.

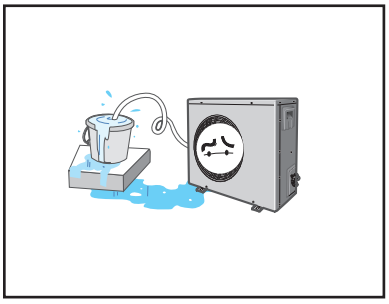
1-3 During operation

- Do not repair the air conditioner at your discretion.
  It is recommended to contact a service center directly.



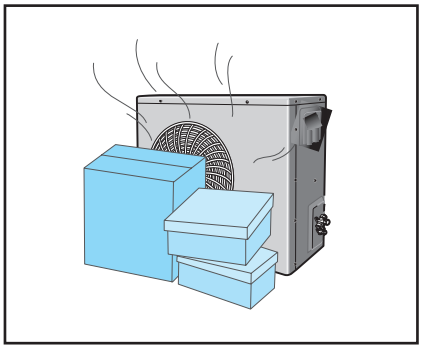
- Never spill any kind of liquid on the air conditioner.
  If this happens, turn off the air conditioner and contact an authorized service center.

- Do not spray any kind of liquid into the indoor unit. If this happens, turn off the air conditioner and contact a service center.

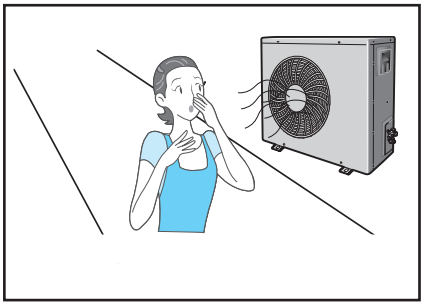


1-3 During operation(cont.)

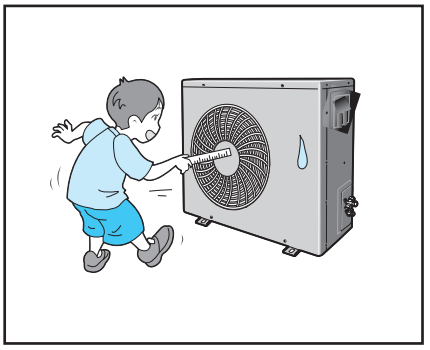
- Do not place any obstacles in front of the air conditioner.



- Make sure that the air conditioner is well ventilated at all times:
  Do not place a cloth or other materials over it.



- Do not insert anything between the airflow blades to prevent damage of the inner fan and consequent injury.
  Keep children away from the air conditioner.



- Remove the batteries if you don't use the remote control for a long time. (If applicable)
- Use the remote control within 7 meters from the indoor unit. (If applicable)

1-4 Disposing of the unit

- Before throwing out the air conditioner, remove the batteries from the remote control.
- When you dispose of the air conditioner, consult your dealer. If pipes are removed incorrectly, refrigerant may blow out and cause air pollution. When it contacts with your skin, it can cause skin injury.
- The package of the air conditioner should be recycled or disposed of properly for environmental reasons.

1-5 Others

- Never store or load the air conditioner upside down or sideways to prevent the damage to the compressor.
- Young children or infirm persons should be always supervised when they use the air conditioner.
- Max current is measured according to IEC standard for safety.
- Current is measured according to ISO standard for energy efficiency.

2. Product Specifications

2-1 The Feature of Product

■ **Auto Changeover**

■ **Long Lasting Outdoor Unit**

Anti Corrosion Cabinet & Heat Exchanger are applied.

■ **Free Installation**

4 directions piping installation are possible.

■ **Various useful functions**

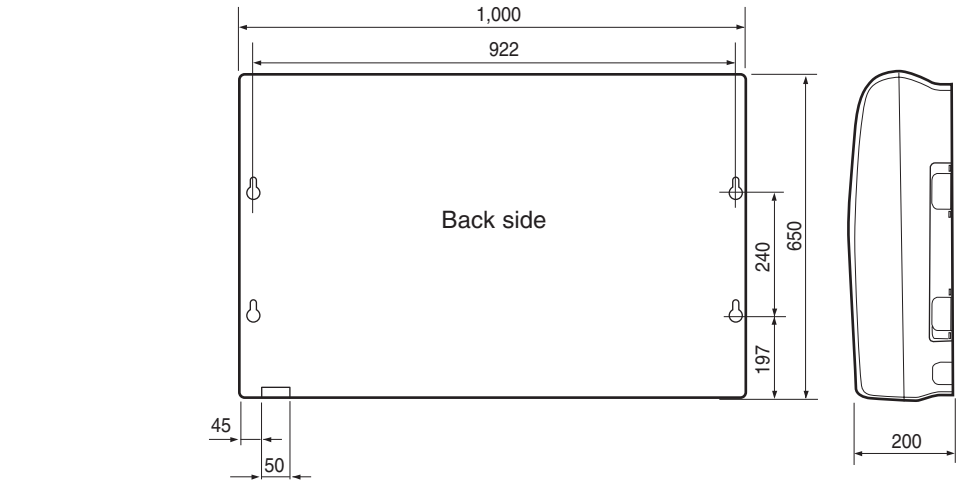
-Long piping : Max.30m

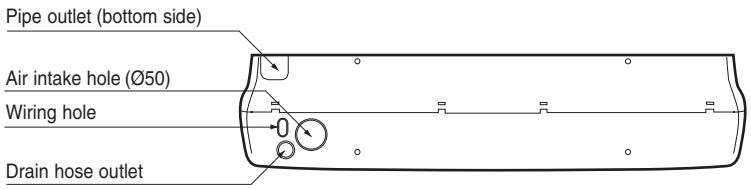
2-2 Name of Each Part

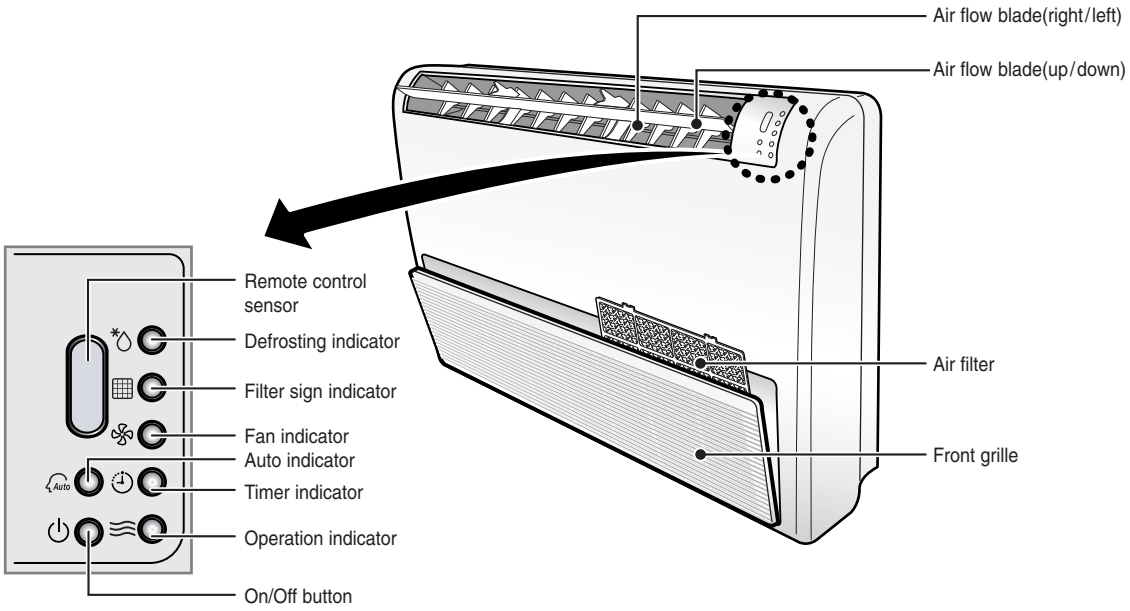
2-2-1 Indoor Unit

(Unit : mm)

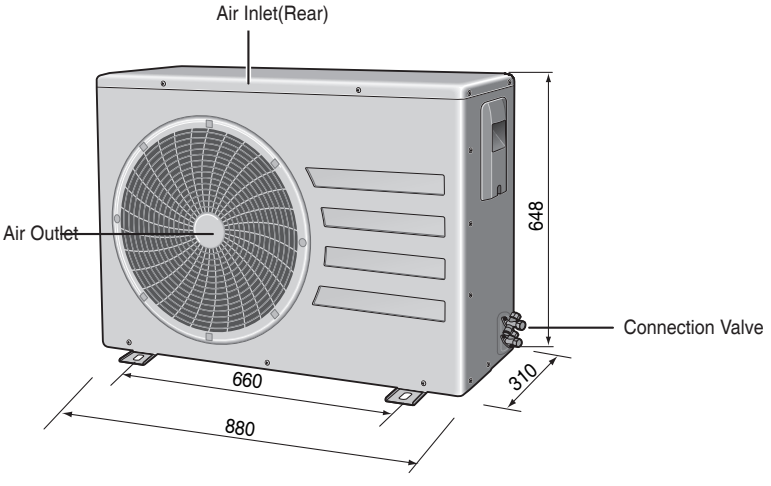
The figures are shown in this instruction may differ from yours depending on the model.







2-2-2 Outdoor Unit



Note : • If the heat exchanger in the outdoor unit gets dusty, cooling efficiency may fall.
So clean the heat exchanger with water when it becomes dirty. However, be careful when you wash the surface of the heat exchanger because it is very sharp.

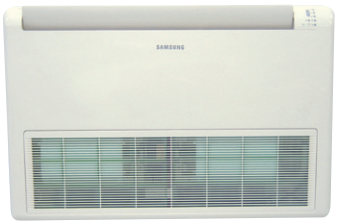
2-3 Product Specifications

MODEL	INDOOR UNIT			FH052EAMC	FH070EAMC
	OUTDOOR UNIT			UH052EAMC	UH070EAMC
Capacity	Cooling		Btu/h	18,300	22,800
			W	5,400	6,700
	Heating		Btu/h	21,100	24,500
			W	6,200	7,200
Power Supply			ø/V/Hz	1/220~240/50	1/220~240/50
Power Input	Cooling		W	1,920	2,480
	Heating		W	2,000	2,550
Running Current	Cooling		A	8.5	11.4
	Heating		A	8.6	11.5
Indoor Unit	Fan Speed	H.H	r.p.m	-	-
		Hi	r.p.m	1160±30	1260±30
		Mid	r.p.m	1060±30	1160±30
		Low	r.p.m	960±30	1060±30
	Air Flow	H.H	m^3/min	-	-
		Hi	m^3/min	13	14
		Mid	m^3/min	12	13
		Low	m^3/min	11	12
	Noise Level(Hi) (Sound Pressure)	Cooling(Hi)	dB(A)	48	50
		Heating(Hi)	dB(A)	48	50
	Heat Exchanger	Type		Slit	Slit
		RowxStagesxFin Pitch(mm)		3x12x1.5	3x12x1.5
	Fan	Type		Sirocco	Sirocco
		Motor Output	W	90	90
	Dimensions	H	mm	200	200
		W	mm	1,000	1,000
		D	mm	650	650
	Weight	Net/Gross	kg	22/26	22/26
Outdoor Unit	Fan Speed	Hi	r.p.m	940±40	880±40
		Low	r.p.m	450±40	450±40
	Air Flow(Hi)		m^3/min	45	51
	Noise Level (Sound Pressure)	Cooling(Hi)	dB(A)	59	60
		Heating(Hi)	dB(A)	60	61
	Fan	Type		Propeller	Propeller
		Motor Output	W	70	78
	Compressor	Type		Rotary	Rotary
		Model		G5A240JUAEM	G8D190JUAEH
		Protection		Internal	Internal

MODEL	INDOOR UNIT			FH052EAMC	FH070EAMC
	OUTDOOR UNIT			UH052EAMC	UH070EAMC
Outdoor Unit	Refrigerant	Type		R410A	R410A
		Charge	g	1500	1700
		Adding Charge	g/m	25	40
		Control		Elec.Expansion Valve	
	Heat Exchanger	Type		Slit	LOUVER
		RowxStagesxFin Pitch(mm)		2x28x1.5	2x28x1.4
	Dimensions	H	mm	648	648
		W	mm	880	880
		D	mm	310	310
	Weight	Net/Gross	kg	59/66	60/67
Other	Pipe O.D Size	Liquid	mm(inch)	6.35(1/4")	9.52(3/8")
		Gas	mm(inch)	12.7(1/2")	15.88(5/8")
	Connection Method			Flare	Flare
	Between	Height	m	15	15
		Pipe Length	m	30	30

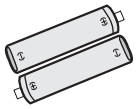
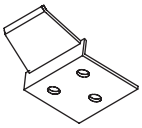
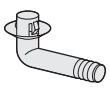
2-4 The Comparative Specifications of Product

Item		FH052EAMC	FH052EAMT
Design	Indoor Unit		
	Outdoor Unit		
Net Weight	Indoor Unit	22.0kg	22.0kg
	Outdoor Unit	59.0kg	67.0kg
Outer Dimension (WxDxH)	Indoor Unit	1,000x200x650mm	1,000x200x650mm
	Outdoor Unit	880x310x648mm	880x310x648mm
Noise	Indoor Unit	48dB↓	48dB↓
	Outdoor Unit(C/H)	59/60dB↓	60/61dB↓
Indoor Display		Detachable Display	Detachable Display

Item		FH070EAMC	FH070EAMT
Design	Indoor Unit		
	Outdoor Unit		
Net Weight	Indoor Unit	22.0kg	22.0kg
	Outdoor Unit	60.0kg	69.0kg
Outer Dimension (WxDxH)	Indoor Unit	1,000x200x650mm	1,000x200x650mm
	Outdoor Unit	880x310x648mm	880x310x648mm
Noise	Indoor Unit	50dB↓	48dB↓
	Outdoor Unit(C/H)	60/61dB↓	60/61dB↓
Indoor Display		Detachable Display	Detachable Display

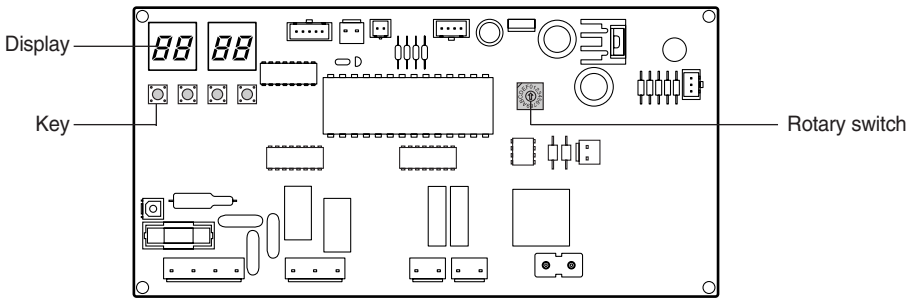
2-5 Accessory and Option Specifications

2-5-1 Accessories

Item	Descriptions	Code-No.	Q'TY	Remark
	Remote Controller Holder	DB61-00204A	1	Indoor Unit
	Remote Control	DB93-00251G	1	
	Batteries for Remote Control	DB47-90024A	2	
	User's Manual	DB98-27138A	1	
	Installation Manual	DB98-27137A	1	
	Bracket wall	DB61-01351A	2	Outdoor Unit
	Nut Flare(FH070✳✳)	DB60-30010B	1	
	Nut Flare(FH070✳✳)	DB60-30010D	1	
	Rubber Leg	DB73-20134A	4	
	Drain Plug	DB67-20011A	1	

3. Alignment and Adjustments

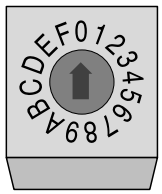
3-1 Setting up option switches



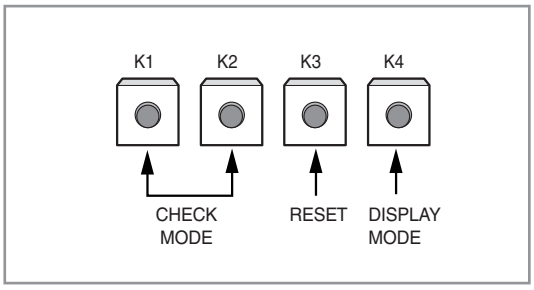
■ Rotary Switch

You should display that how many indoor units are connected to the outdoor unit.
Refer to the table below, then turn the arrow to appropriate position.

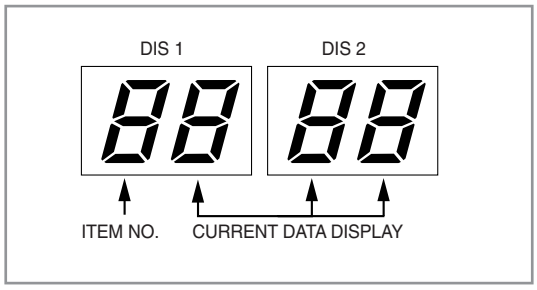
Switch No.	Number of indoor unit(s)	Switch No.	Number of indoor unit(s)
0 or 1	One	9	Nine
2	Two	A	Ten
3	Three	B	Eleven
4	Four	C	Twelve
5	Five	D	Thirteen
6	Six	E	Fourteen
7	Seven	F	Fifteen
8	Eight	-	-



■ KEY



■ Display



■ Summary of KEY functions

Function / Number of press times	K1 (Displayed on SEG 3, 4)	K2 (Displayed on SEG 3, 4)	K3 (Displayed on SEG 3, 4)	K4 (Displayed on SEG 3, 4)
1	Adding refrigerant at heating mode	Adding refrigerant at cooling mode	Reset	Displays data
2	Test operation at heating mode	Test operation at cooling mode	-	-
3	End	Pump Down for recovery of refrigerant	-	-
4	-	End	-	-

✳ Use the K1 only for heat pump models.

■ Reading data indicated on the display

KEY	Number of press	Item	Example	
			Display	Meaning
K1	1	Adding refrigerant for heat pump models	H1	
	2	Test operation for heat pump models	H2	
	3	End		
K2	1	Adding refrigerant for cooling only models	H3	
	2	Test operation for cooling only models	H4	
	3	Pump Down for recovery of refrigerant	H5	
	4	End		
K3		Reset		
K4	1			
	2			
	3	Discharge temperature of compressor	3 110	110 °C
	4	Temperature of outdoor heat exchanger	4 38	38 °C
	5	Outdoor temperature	5 34	34 °C
	6	Step of electronic expansion valve (0 step : all closed, 480 step : all open)	6 12	120STEP (12 x 10)
	7	Temperature of evaporator	7 -2	-2 °C
			7 12	12 °C
	8	Indoor temperature	8 22	22 °C
	9		9	
	10	Stopping view mode & display communication data		

3-2 Setting Option Setup Method

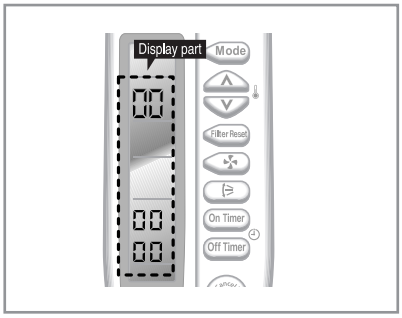
ex) Option No. : 0851 15- 1d2340

Step 1 : **Enter the Option Setup mode.**

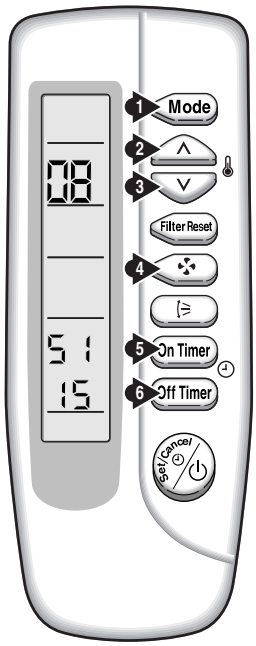
1st Take out the batteries of remote control.

2nd Press the temp. button simultaneously and insert the battery again.

3rd Make sure the remote control display shown as 00 00 00 .



Step 2 : **Enter the Option Setup mode and select your option according to the following procedure.**



✳ Setting is not required if you must 0 a value which has a 0 default.

1

The default value is 00 00 00 .
Otherwise, push the Mode button to 0 .
Every time you push the button, the display panel reads 1 or 0 repeatedly.

2

Push the button to set the display panel to 8 .
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ · · · 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.

3

Push the button to set the display panel to 5 .
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ · · · 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.

4

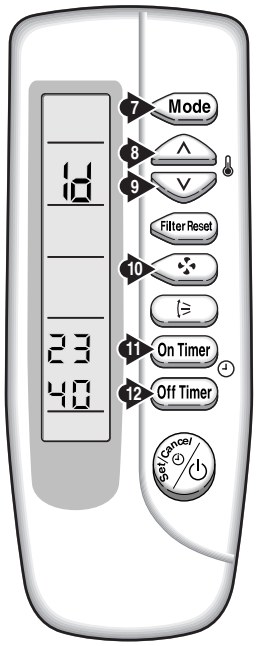
Push the button to set the display panel to 1 .
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ · · · 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.

5

Push the On Timer button to set the display panel to 1 .
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ · · · 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.

6

Push the Off Timer button to set the display panel to 5 .
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ · · · 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.



✳ Setting is not required if you must a value which has a default.

7

Press Mode button, then the default value is .

8

Push the button to set the display panel to d.
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ · · · 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.

9

Push the button to set the display panel to 2.
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ · · · 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.

10

Push the button to set the display panel to 3.
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ · · · 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.

11

Push the On Timer button to set the display panel to 4.
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ · · · 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.

12

Push the Off Timer button to set the display panel to 0.
Every time you push the button, the display panel reads 0 ➡ 1 ➡ 2 ➡ 3 ➡ · · · 9 ➡ A ➡ b ➡ c ➡ d ➡ E ➡ F repeatedly.

Step 3 : Upon completion of the selection, check you made right selections.

Press the Mode Selection key, Mode to set the display part to 0 and check the display part.

➡ The display part shows .

Press the Mode Selection key, Mode to set the display part to 1 and check the display part.

➡ The display part shows .

Step 4 : Pressing the ON/OFF button ( )

When pressing the operation ON/OFF key with the direction of remote control for unit, the sound "Ding" or "Diriring" is heard and the OPERATION ICON( ) lamp of the display is flickering at the same time, then the input of option is completed. (If the diriring sound isn't heard, try again pressing the ON/OFF button.)

Step 5 : Unit operation test-run

First, Remove the battery from the remote control.

Second, Re-insert the battery into the remote control.

Third, Press ON/OFF button( ) with the direction of remote control for set.

• Error Mode

1st If all lamps of indoor unit are flickering, Plug out, plug in power plug again and press ON/OFF key to retry.

2nd If the unit is not working properly or all lamps are continuously flickering after setting the option code, see if the correct option code is set up for its model.

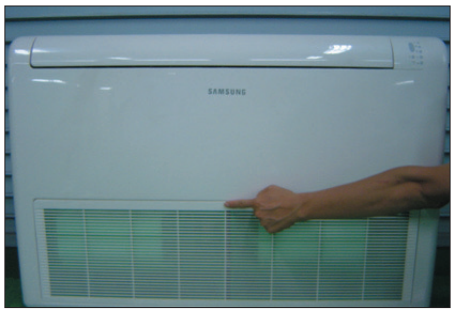
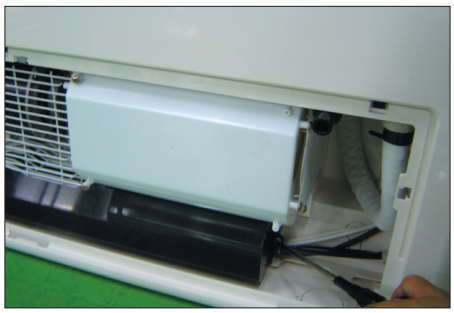
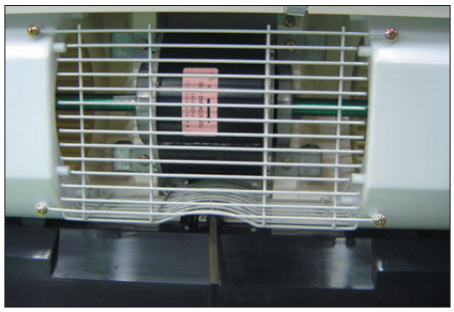
■ OPTION ITEMS

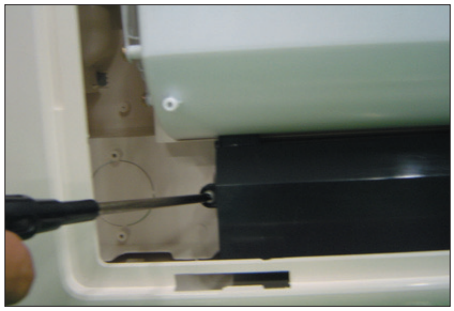
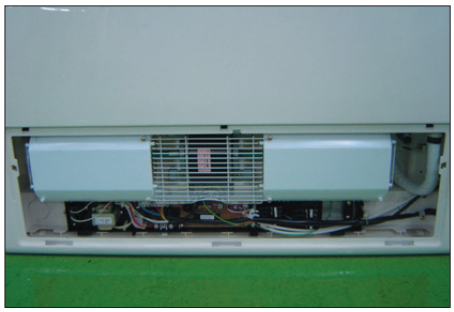
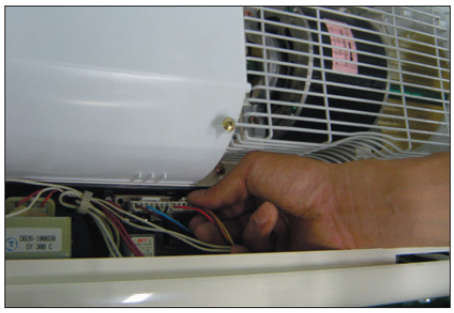
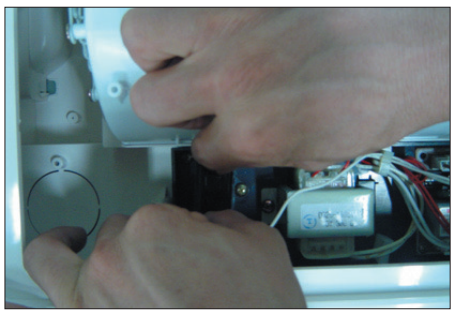
REMOCON / MODEL	SEG1	SEG2	SEG3	SEG4	SEG5	SEG6	SEG7	SEG8	SEG9	SEG10	SEG11	SEG12
FH052EAMC	0	3	5	4	0	0	1	9	0	0	0	0
FH070EAMC	0	3	5	4	0	0	1	c	0	0	0	0

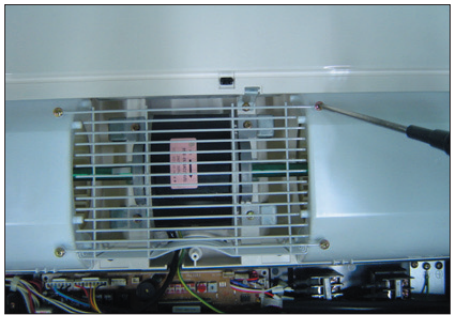
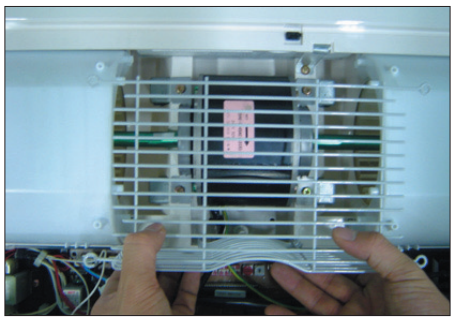
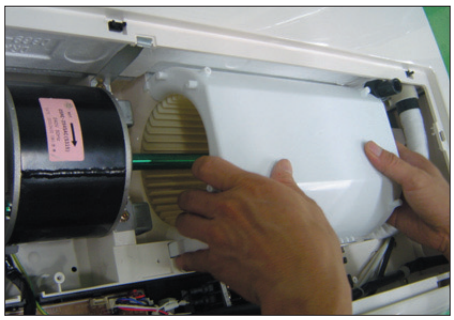
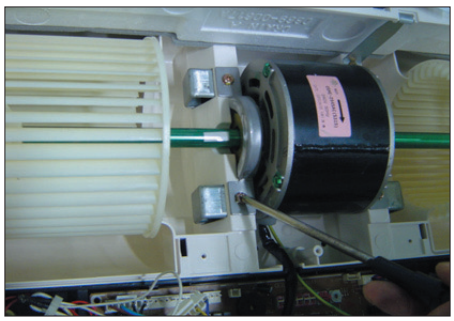
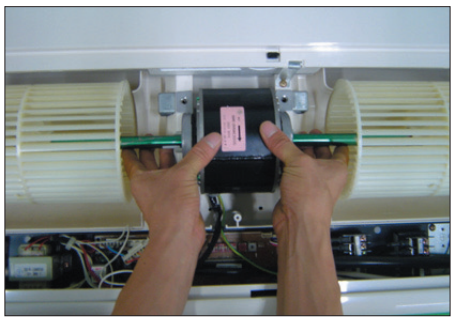
4. Disassembly and Reassembly

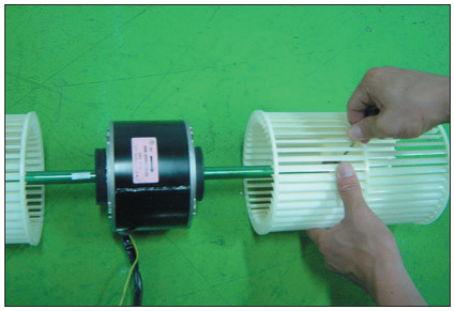
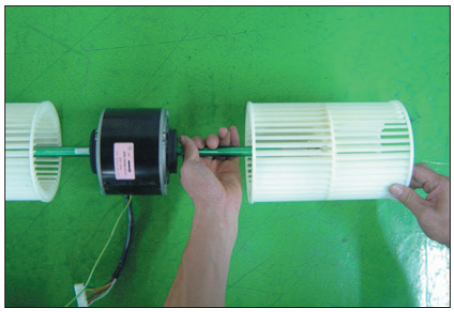
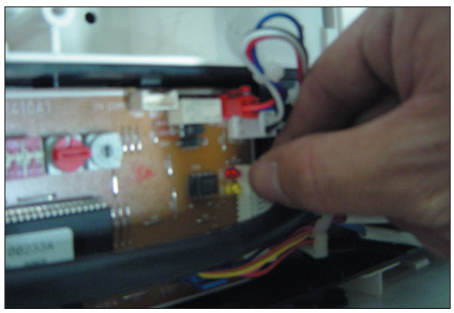
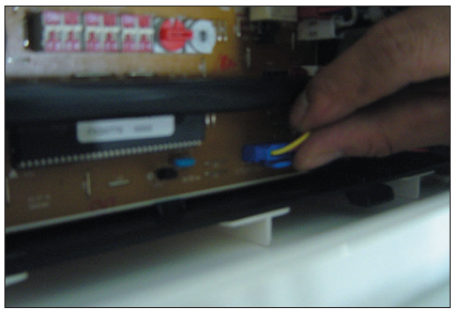
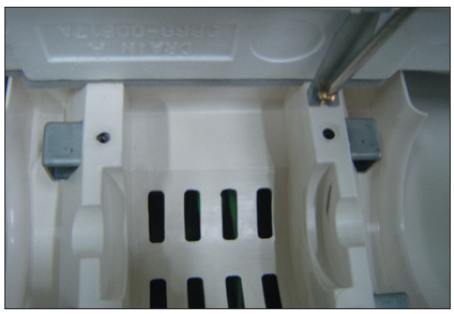
Stop operation of the air conditioner and remove the power cord before repairing the unit.

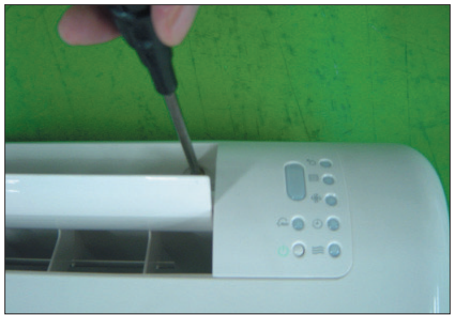
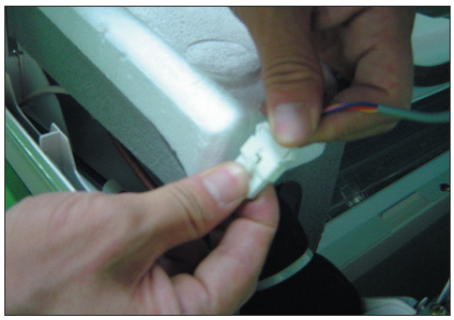
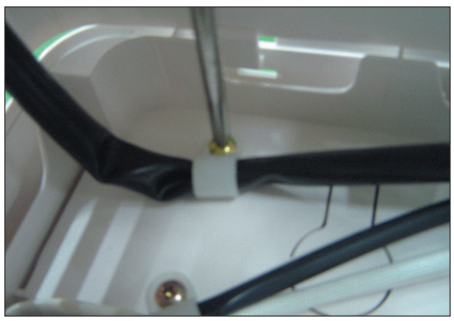
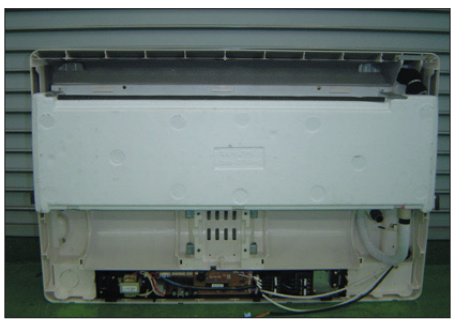
4-1 Indoor Unit

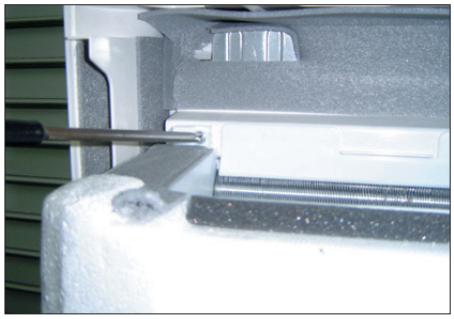
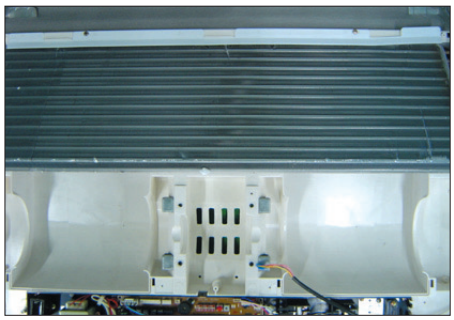
No	Parts	Procedure	Remark
1	Electrical Part	1) Open the Grille by pressing 3 position. (center and both side)	
		2) Detach the Air Inlet Grille.	
		3) Open the Cover of Component Electrical Box by removing 3 screws. (center and both side)	 

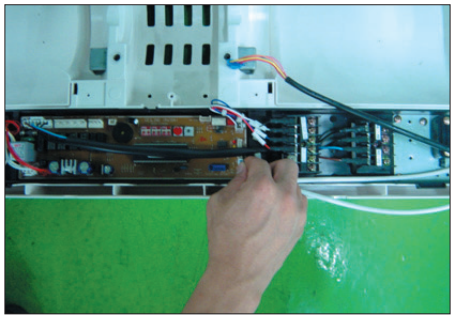
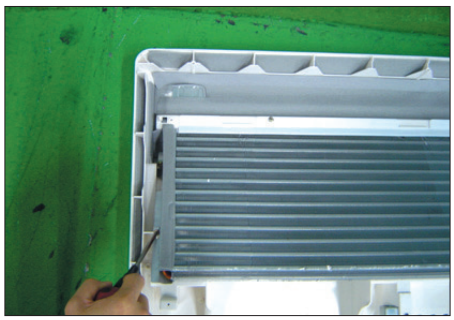
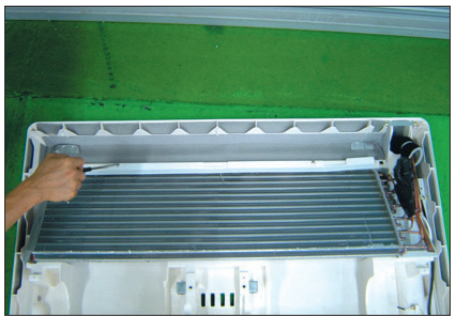
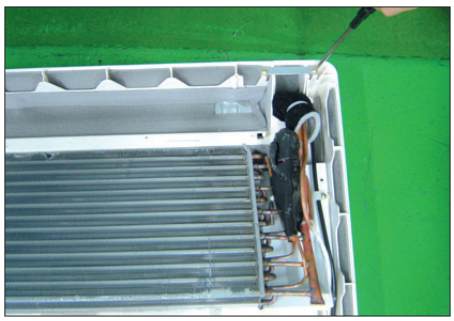
No	Parts	Procedure	Remark
			 
2	Fan & Motor	1) Detach the screw and untie earth wire of Motor.	
		2) Disconnect of housing of Motor Wire.	
		3) Disconnect the Capacitor Wire.	

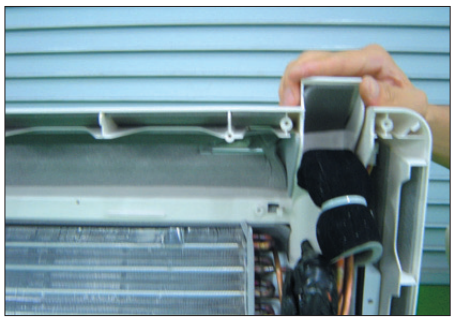
No	Parts	Procedure	Remark
		4) Loosen the Guard Safety by removing 6 screws.	
			
		5) Detach the Upper Case of Fan. (2EA)	
		6) Loosen the 4 screws what is fix the Motor.	
		7) Detach the Fan and Motor assembly.	

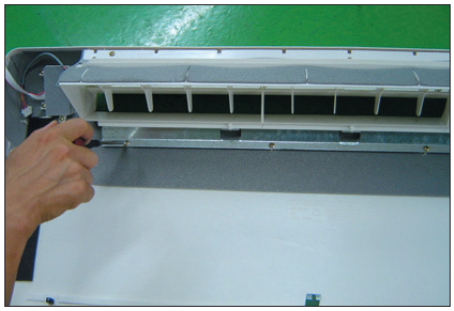
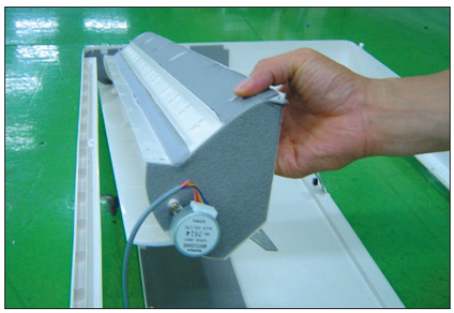
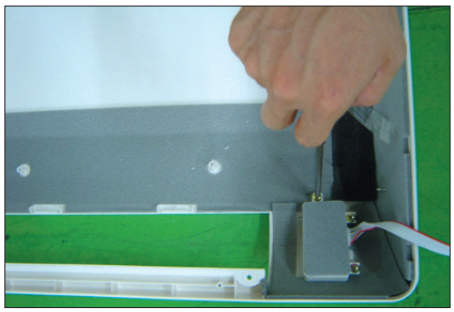
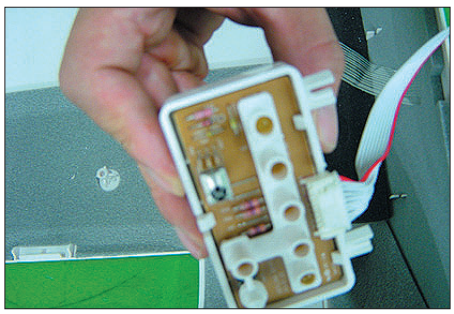
No	Parts	Procedure	Remark
		8) Loosen the set fixing bolts. (with a M3 wrench)	
		9) Detach the Fan.	
3	Drain Pan	1) Disconnect the Display PCB Wire as shown in picture. (white housing)	
		2) Disconnect the Step Motor Wire as shown in picture. (blue housing)	
		3) Disassemble the Hanger Bracket by removing the 1 screw.	

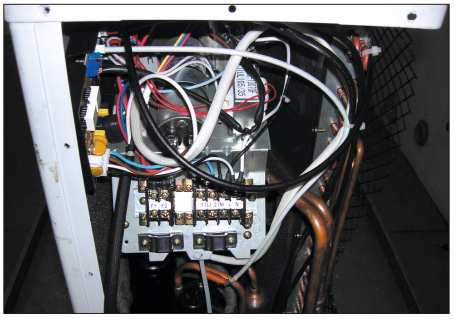
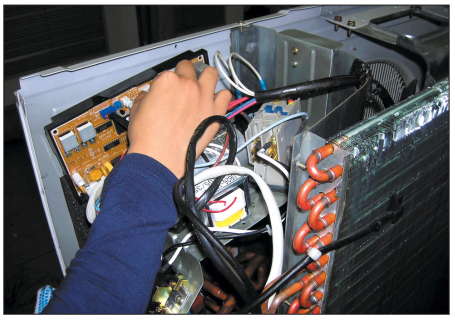
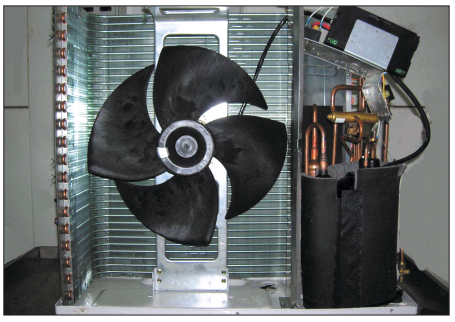
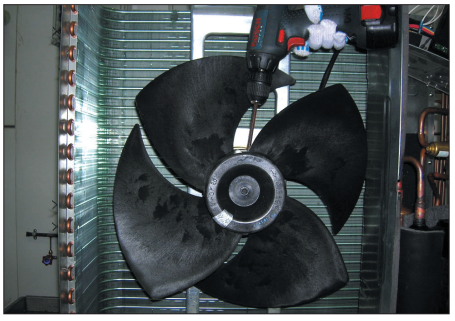
No	Parts	Procedure	Remark
		4) Loosen the 3 screws of Front Side.	
		5) Disassemble the assembly Front Cover Part.	
		6) Disconnect the Step Motor Wire as shown in picture.	
		7) Detach the Wire Clamp fixed in Base Part.	
		8) Detach the Front Cover assembly completely.	

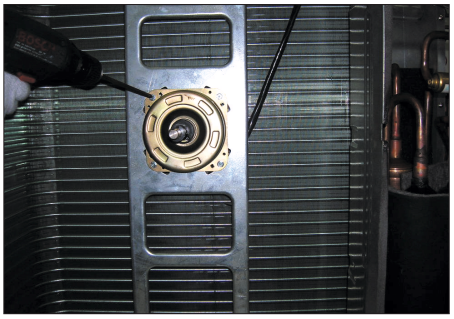
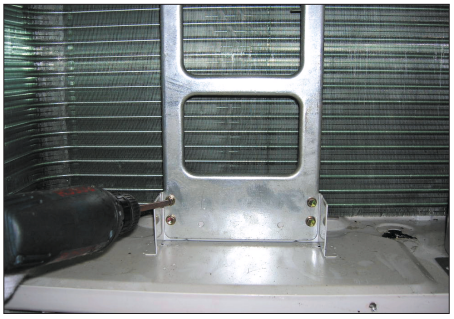
No	Parts	Procedure	Remark
		9) Loosen the screw what is fix with Base Part and Drain Pan. (Upper Side:2EA)	
		10) Loosen the screw what is fix with Base Part and Drain Pan. (Lower Side:2EA)	
		11) Detach the Drain Pan completely.	

No	Parts	Procedure	Remark
4	Evaporator	1) Disconnect the Thermistor Wire as shown in picture. (white housing)	
		2) Loosen the 2 screws shown in picture.	
		3) Loosen the 2 screws shown in picture and remove Plastic Part. (white)	
		4) Loosen the 2 screws shown in picture and remove Steel Bracket.	
		5) Disassemble the 4 screws Steel Plate in rear side of the unit.	

No	Parts	Procedure	Remark
		6) Loosen the 2 screws as shown in picture.	
		7) Detach the Plastic Cover as shown in picture.	
		8) Detach the Evaporator assembly.	

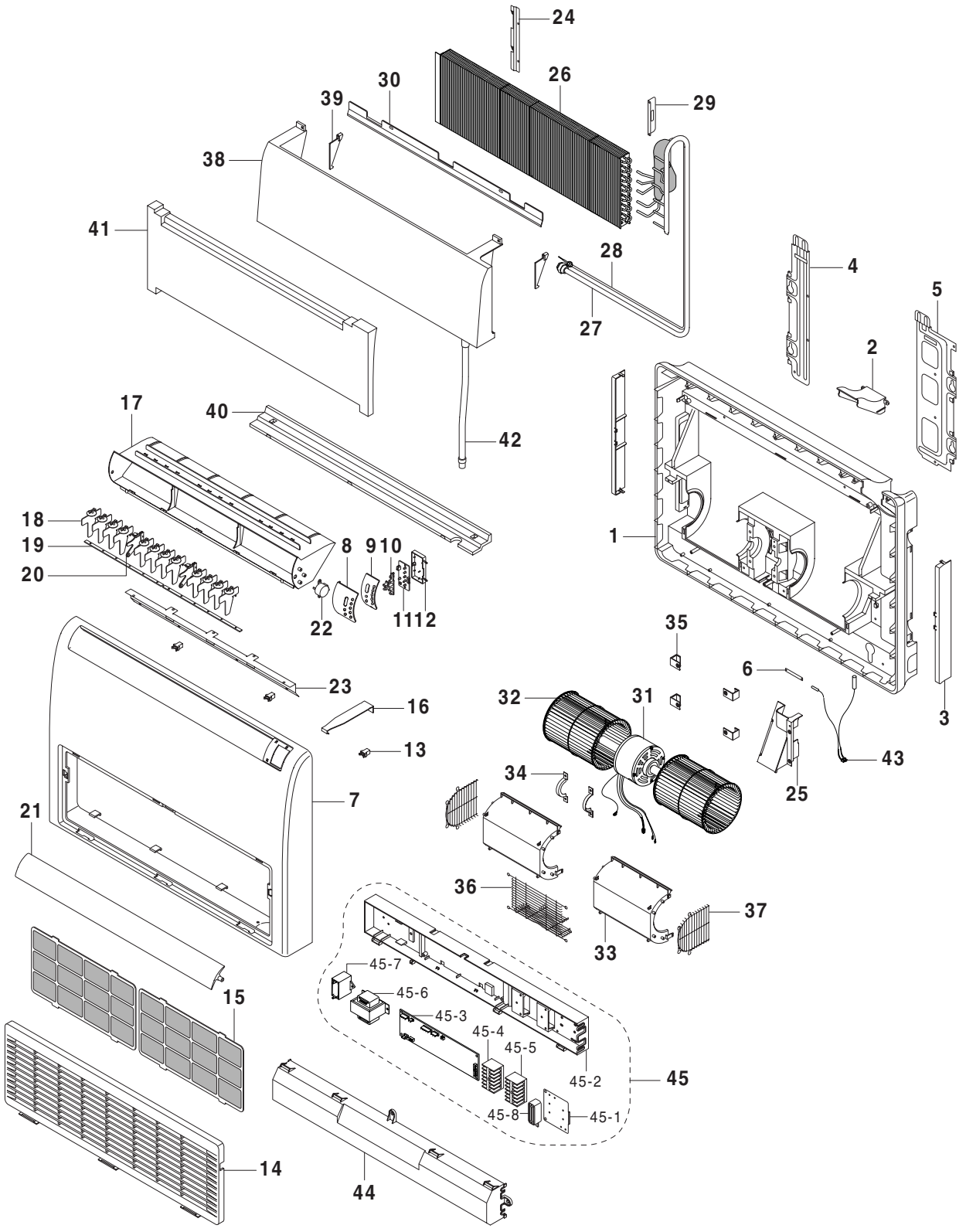
No	Parts	Procedure	Remark
5	Stepping Motor	1) Loosen the 4 screws in rear side of Front Cover assembly as shown in picture.	
		2) Loosen the 2 screws as shown in picture.	
		3) Disassemble the Blade and Stepping Motor assembly and remove the 2 Screws Stepping Motor.	
6	Display PCB	1) Loosen the 3 screws in rear side of Front Cover assembly as shown in picture.	
		2) Disassemble Display PCB assembly and Disconnect Wire. 3) Disassemble the Display PCB.	

No	Parts	Procedure	Remark
	The disassembling procedure of Outdoor Unit	1) Firstly, turn off the equipment, then detach the indicating screws on the Cabinet Side.	
		2) After disassembling the indicating screws, detach the Cabinet Side.	
		3) Pull out all the cables on the PCB, detach the PCB and Case Control.	
		4) Detach Cabinet-Top and Cabinet Front.	
		5) After disassembling the indicating screw, detach the Fan.	

No	Parts	Procedure	Remark
		6) Detach the indicating screws used for fastening the Motor.	
		7) Detach the indicating screws used for fastening the Bracket Motor.	

5. Exploded Views and Parts List

5-1 Indoor Unit



■ **Parts List**

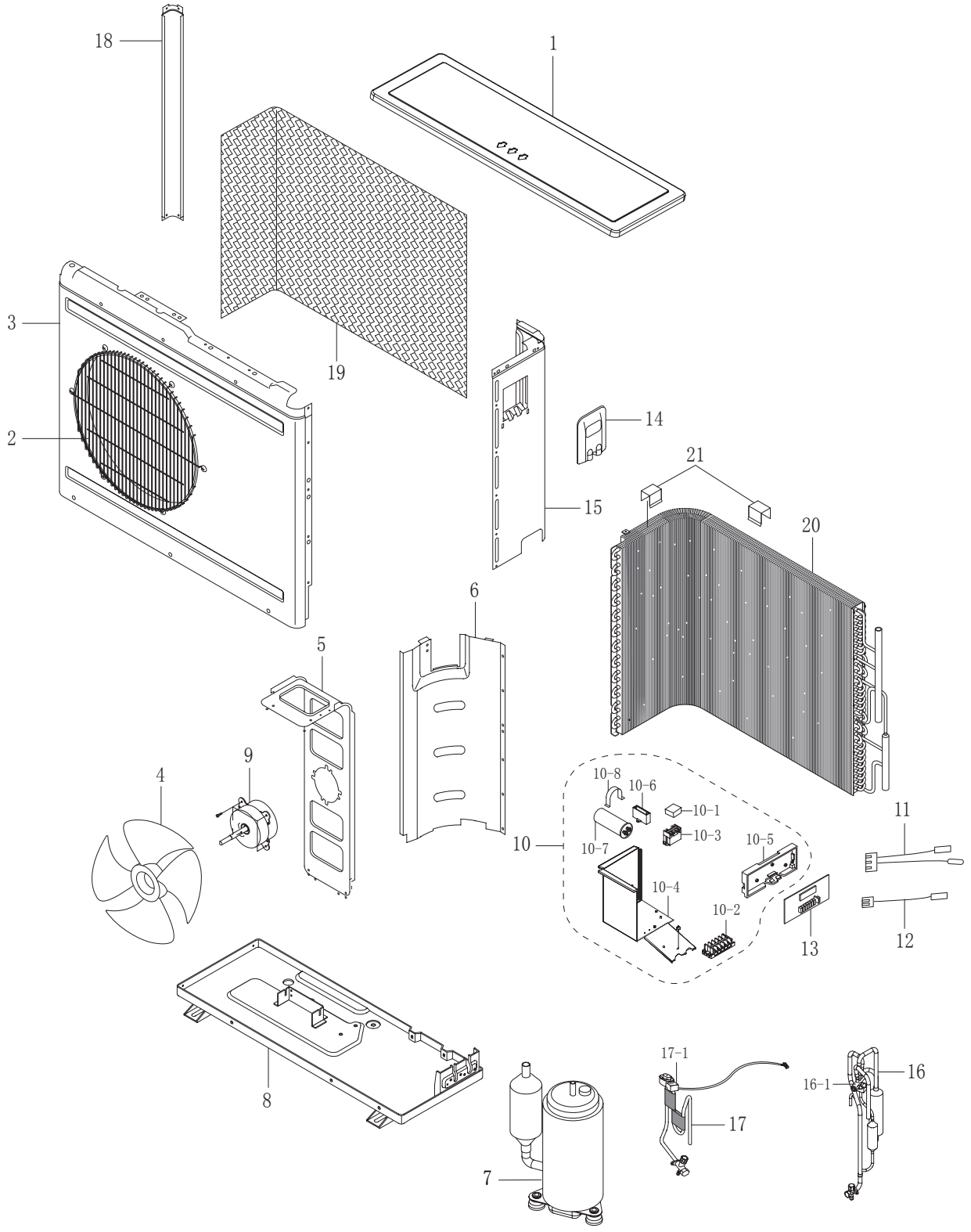
No.	Code No.	Description	Specification	Q'TY		SA/SNA
				FH070EAMC	FH052EAMC	
1	DB64-00682A	CABI BASE	ABS	1	1	SNA
2	DB63-00601A	COVER PIPE	ABS	1	1	SNA
3	DB63-00602A	COVER SIDE	ABS	2	2	SNA
4	DB61-01149A	PLATE HANGER LF	SGCC-M	1	1	SNA
5	DB61-01150A	PLATE HANGER RH	SGCC-M	1	1	SNA
6	DB61-01155A	BRACKET COVER PIPE	SGCC-M	1	1	SNA
7	DB64-00683A	CABI FRONT	ABS(SILK PRINT)	1	1	SNA
8	DB63-00606C	COVER DISPLAY A	ABS(SILK PRINT)	1	1	SNA
9	DB63-00607A	COVER DISPLAY B	PC	1	1	SA
10	DB63-00604A	COVER LED	ABS	1	1	SA
11	DB93-01476B	DISPLAY PCB IN	PCB	1	1	SNA
12	DB61-01159A	CASE DISPLAY PCB	ABS	1	1	SA
13	DB66-00451A	LATCH PUSH	ASS'Y	3	3	SNA
14	DB64-00684A	INLET GRILLE	ABS	1	1	SA
15	DB63-00610A	FILTER AIR	PP	2	2	SA
16	DB61-01153A	PLATE HANGER FRONT	SGCC-M	1	1	SA
17	DB61-01156A	BRACKET OUTLET	ABS	1	1	SNA
18	DB31-00158A	BLADE V	ABS	12	12	SA
19	DB31-00159A	BLADE CONNECTOR V	ABS	2	2	SA
20	DB31-00164A	BLADE CONNECTOR H	ABS	2	2	SA
21	DB31-00157A	BLADE H	ABS	1	1	SA
22	DB31-10113A	STEP MOTOR	ASS'Y	1	1	SA
23	DB61-01352A	BRACKET DRAIN	SGCC-M	1	1	SA
24	DB67-00258A	DRAIN SUB LF	SGCC-M	1	1	SNA
25	DB67-00259A	DRAIN SUB RH	HIPS	1	1	SNA
26	DB96-07272A	EVAPORATOR	ASS'Y	1	1	SA
27	DB96-07274A	ASS'Y COLLECTOR	ASS'Y	1	-	SA
	DB96-07275A	ASS'Y COLLECTOR	ASS'Y	-	1	SA
28	DB96-07413A	ASS'Y INLET	ASS'Y	1	-	SA
	DB96-07273A	ASS'Y INLET	ASS'Y	-	1	SA
29	DB61-01157A	BRACKET EVAP	SGCC-M	1	1	SNA
30	DB63-00624A	COVER EVAP	HIPS	1	1	SNA
31	DB31-00179A	MOTOR FAN	ASSY (OSME-254SAC)SA	1	1	SA
32	DB67-00260A	BLOWER	ABS	2	2	SA
33	DB61-01160A	CASE FAN UP	HIPS	2	2	SA
34	DB63-00611A	COVER MOTOR	SGCC-M	2	2	SA
35	DB61-01162A	HOLDER MOTOR	SGCC-M	4	4	SA
36	DB63-00738A	GUARD SAFETY	HSWR	1	1	SA
37	DB63-00739A	GUARD FAN	HSWR	2	2	SA
38	DB67-00257A	DRAIN PAN	HIPS	1	1	SNA
39	DB67-00275A	DRAIN PARTITION	HIPS	2	2	SNA

■ **Parts List(cont.)**

No.	Code No.	Description	Specification	Q'TY		SA/SNA
				FH070EAMC	FH052EAMC	
40	DB69-00617A	CUSHION DRAIN A	EPS(25FOAM-PS)	1	1	SNA
41	DB69-00714A	CUSHION DRAIN B	EPS(25FOAM-PS)	1	1	SNA
42	DB94-00240E	ASS'Y DRAIN HOSE	ASS'Y	1	1	SA
43	DB30-00102D	THERMISTOR EVAP	ASS'Y	1	1	SA
44	DB63-00605A	COVER CONTROL	ABS(UL94-V0)	1	1	SNA
45	DB93-04740B	ASS'Y CONTROL IN	ASS'Y	1	1	SNA
45-1	DB61-01154A	BASE CONTROL	SGCC-M	1	1	SNA
45-2	DB61-01220A	CASE PCB MAIN	ABS(UL94-V0)	1	1	SNA
45-3	DB93-02268A	ASS'Y MAIN PCB	PCB	1	1	SNA
45-4	DB95-01101B	TERMINAL BLOCK 6P	DAF-S6P	1	1	SNA
45-5	DB95-01110A	TERMINAL BLOCK 4P	DAF-S6P	1	1	SNA
45-6	DB26-00080A	TRANS POWER	ASS'Y	1	1	SA
45-7	2301-001368	CAPACITOR	5uF 450VAC	1	1	SA
45-8	DB61-00250	CLAMP WIRE	NYLON	2	2	SA

5-2 Outdoor Unit

■ UH052/070EAMC



■ Parts List

NO.	Code NO.	Description	Specification	Q'TY		SA/SNA
				UH052 EAMC	UH070 EAMC	
1	DB90-10616G	ASSY CABI-UP	APE2468,CHINA(ALL)	1	1	SA
2	DB63-00831A	GUARD FAN	HPSR2371GB,ABS,SUPREMEPJT	1	1	SA
3	DB90-01145A	ASSY CABINET FRONT	KFRD70LW/LSA,SSEC	2	2	SA
4	DB67-50074A	FAN-PROPELLER	AS1569,	1	1	SA
5	DB95-00205A	ASSY MOTOR B/K	APH1816,CHINA	1	1	SA
6	DB94-50039J	ASSY PARTITION	UH070EZMC,SSEC	1	1	SA
7	G8D190JUAEH	ROTARY COMPRESSOR	50Hz,	1	-	SA
	G5A240JUAEM			-	1	SA
8	DB90-00970R	ASSY BASE OUT-PART	UH070EZM1C,SSEC	1	1	SA
9	DB31-00264D	MOTOR BLOWER	YGN406D,4WAY PJT,0.65/0.47A,50Hz,220V,	1	-	SA
	DB31-00336C			-	1	SA
10	DB93-04254B	ASSY CONTROL OUT	HP,24K BTU,220,Y,OUT,UH070EZM1C/XFA,	1	1	SA
10-1	DB26-10070F	TRANS	UH094EAMC,SSEC	1	1	SA
10-2	DB65-00135A	TERMINAL BLOCK	UH070EZM,F1F21(L)2(N)LN,XIA,J	1	1	SA
10-3	DB35-00046A	RELAY	XMCO252LBBC,25A	1	1	SA
10-4	DB90-01264A	ASSY CASE-CONTROL OUT	UH070EZM,SSEC,DPM	1	1	SA
10-5	DB61-01582A	CASE PCB	UH070EZM,ABS,2.5,BLACK,DPM,5V	1	1	SA
10-6	2301-001379	C-FILM,LEADOTHER	4000nF,+105%,450V,BK,48x22x35mm,	1	1	SA
10-7	2501-001240	C-OIL	50uF,450V,BK,53x125mm,20.6	1	1	SA
11	DB32-00102A	THERMISTOR-OUT	204CT,200K/25,3435K,20150,50MA,5V,	1	1	SA
12	DB32-00101A	THERMISTOR-OUT	204CT,200K/25,3435K,20150,50MA,5V,	1	1	SA
13	DB93-02919Y	ASSY-OUTDOOR MAIN PCB	UH052EAMC , H/P , OUTDOOR MAIN PCB,	1	-	SA
	DB93-02919T		UH070EAMC , H/P , OUTDOOR MAIN PCB,	-	1	SA
14	DB90-40176B	ASSY COVER-CONTROL	AS126/1210,	1	1	SA
15	DB64-00798B	CABINET-SIDE RH PAINT	W1PJT,SECCP ,T=0.8,SC97445T	1	1	SA
16	DB96-07210A	ASSY VALVE 4WAY	UH052EAMC ,SSEC	1	-	SA
	DB96-06953A		UH070EAMC ,SSEC	-	1	SA
16-1	DB97-02689A	ASSY-SOLENOID VALVE	SSEC	1	1	SA
17	DB96-07211A	ASSY VALVE-EXPANSION	UH052EAMC ,SSEC	1	-	SA
	DB96-06869A		UH070EAMC ,SSEC	-	1	SA
17-1	DB62-02567K	VALVE EXPANCOIL	RVPC035B2M3,ASSY,30~90pps,33KG, DC12V	1	1	SA
18	DB63-00692A	GUARD COND(PAINT)	W1PJT,SECCP,T=1.6,SC90073T,SSEC	1	1	SA
19	DB61-00821B	GUIDE-SCREEN	APL1540,P.E.H 100%,T2.5,1025,600,BLK,	1	1	SA
20	DB96-06018D	ASSY COND	UH052EAMC ,SSEC	1	-	SA
	DB96-06989A		UH070EAMC ,SSEC	-	1	SA
21	DB61-30276A	BRACKET-HOLDER	SGCCM,Z,T0.8,	2	2	SA

MEMO

6. Electrical Parts List

■ Indoor PCB : DB93-02268A

Location No.	Code No.	Description	Specification	Q'TY	SA/SNA	Remark
C901	2203-000444	C-CERAMIC,CHIP	1nF,10%,50V,X7R,TP,2012,-	1	SNA	
C204,C205,C301,C911~C915	2203-001562	C-CERAMIC,CHIP	10nF,+80-20%,50V,Y5V,TP,2012	8	SNA	
C102,C104,C201~C203	2203-000192	C-CERAMIC,CHIP	100nF,+80-20%,50V,Y5V,TP,2012	19	SNA	
C302~C306,C501~C505						
C805,C806,C808,C902						
R04,R201,R204~R206,R601	2007-000468	R-CHIP	1Kohm,5%,1/10W,DA,TP,2012	13	SNA	
R603,R607,R813~R816,R902						
R203,R302,R303,R503	2007-000300	R-CHIP	10Kohm,5%,1/10W,DA,TP,2012	13	SNA	
R602,R608,R609,R903						
R911~R915						
R301	2007-000023	R-CHIP	120ohm,5%,1/10W,DA,TP,2012	1	SNA	
R402,R404,R502,R901	2007-000766	R-CHIP	330ohm,5%,1/10W,DA,TP,2012	4	SNA	
R604,R605	2007-000931	R-CHIP	470ohm,5%,1/10W,DA,TP,2012	2	SNA	
R606	2007-000030	R-CHIP	560ohm,5%,1/10W,DA,TP,2012	1	SNA	
R511,R512	2007-000941	R-CHIP	47Kohm,5%,1/10W,DA,TP,2012	2	SNA	
R202,R610	2007-000686	R-CHIP	3.3Kohm,5%,1/10W,DA,TP,2012	2	SNA	
R401,R403	2007-001067	R-CHIP	6.8Kohm,1%,1/10W,DA,TP,2012	2	SNA	
BD71	0402-001298	DIODE-BRIDGE	DF06S,600V,1A,SMD-4,TP	1	SNA	
D900~D919	0401-000133	DIODE-SWITCHING	RLS4148,100V,200mA,SOD-80C,TP	20	SNA	
Q201,Q202,Q601,Q602	0501-000534	TR-SMALL SIGNAL	2SC2412K,NPN,200mW,SOT-23,TP,1	4	SNA	
Q603	0501-002296	TR-SMALL SIGNAL	MMST2907A,PNP,200mW,SOT-23,TP,100-	1	SNA	
Q901,Q902,Q903	0504-000001	TR-DIGITAL	DTA114EKA,PNP,200mW,10K/10K,SOT-23,TP	3	SNA	
IC05,IC06,IC08	0506-000175	TR-ARRAY	ULN2003AFW,NPN,7,1W,SOP-16,ST,1000	3	SNA	
IC51	1103-001175	IC-EEPROM	93LC56,128x16Bit,SOP,8P,150MIL,-,2.5V,-,	1	SNA	
D105	0402-000137	DIODE-RECTIFIER	1N4007,1000V,1A,DO-41,TP	1	SNA	
CD31,CD32	0406-001109	DIODE-TVS	SAC5.0,7.6/-/-V,500W,DO-15	2	SNA	
J1~J45	DB47-90005A	JUMPER	JUMPER WIRE;TA0.6PI/52mm,P0509-400-108,-,-	45	SNA	
C601	2401-001573	C-AL	47uF,20%,50V,GP,TP,6.3x11,2.5	1	SNA	
C105	2401-000038	C-AL	470uF,20%,25V,GP,TP,10x12.5mm	1	SNA	
IC03	1202-000001	IC-VOLTAGE COMP.	KA7533,TO-92,3P,-,SINGLE,-,-,PLASTIC	1	SNA	
LED01	0601-001373	LED	3mm/2.54,ROUND,RED,3mm,630nm	1	SNA	
LED02	0601-001377	LED	3mm/2.54,ROUND,YEL,3mm,585nm	1	SNA	
F702	3601-001308	FUSE	250V,1.6A,TIME-LAG,PLASTIC,8.4x7.6mm,SR-5-016-H	1	SNA	
X301	2802-000103	RESONATOR-CERAMIC	10MHz,0.5%,TP,10.0x5.0x8.0mm	1	SNA	
C101,C103	2401-000173	C-AL	1000uF,20%,35V,GP,TP,13x25,5	2	SNA	
BZ61	3002-001080	BUZZER-PIEZO	WEA20-15PC.1,85DB,12V,-,2.0KHz,ST	1	SNA	
IC04	DB09-00233B	IC MICOM	MB89538AP-101,64P,+5V,10MHz,STM-0025BC	1	SNA	
IC19	1006-001210	IC-BUS TRANSCEIVER	MAX485,DIP,8P,300MIL,SINGLE,ST,PLASTIC	1	SNA	
IC01	1203-000243	IC-POSI.FIXED REG.	KA7812A,TO-220,3P,-,PLASTIC,11.5	1	SNA	
HEAT SINK	DB62-03581A	HEAT SINK	HEAT SINK;DPM,A6063,1.3,15,15,WHT,-,HEIGHT:25.5	1	SNA	

■ Indoor PCB : DB93-02268A (cont.)

Location No.	Code No.	Description	Specification	Q'TY	SA/SNA	Remark
SCREW TAPPING	6002-000630	SCREW TAPPING	SCREW-TAPPING;PH,+,-,2S,M3,L8, ZPC(YEL),SWRCH18A,-	1	SNA	
IC02	1203-000274	IC-POSI.FIXED REG.	KA7805,TO-220,3P,-,PLASTIC,4.8/5	1	SNA	
FT71	2901-001181	FILTER-EMI AC LINE	HP1-P10,250V,1A,-,220000PF,20.5x20.5x32	1	SNA	
F701	3601-000263	FUSE-CARTRIDGE	250V,3.15A,TIME-LAG,GLASS,5x20mm,521-3150-401	1	SNA	
F701	3602-001012	FUSE-BLOCK	FB-58,500V,-,100M	1	SNA	
SW01	DB34-00009A	SWITCH-DIGITAL	PT65 103,ROTARY DIP,-,DC24V MAX,0.4	1	SNA	
SW02	DB34-00010A	SWITCH-DIGITAL	PT65 503,ROTARY DIP,-,DC24V MAX,0.4	1	SNA	
SW03,SW04,SW05	3407-001062	SWITCH-DIP	BSD-104,5V DC,100mA,SLIDE,-	3	SNA	
RY73~RY76	3501-001163	RELAY-MINIATURE	CS11-12SH,12VDC,200mW,5000mA, 1FORmA,10mS,5mS	4	SNA	
R78,R79,RY72	3501-001154	RELAY-MINIATURE	FTR-F3AA012E,12VDC,5A,200mW, 3000mA,1FORmA,10mS,10M	3	SNA	
RY01	3501-001248	RELAY-MINIATURE	G6S-2,12V,-,11.7mA,DPDT,4mS,4mS	1	SNA	
VA71	1405-000154	VARISTOR	INR14D561K-RS,560V,2500A,17.5x7.5mm,TP	1	SNA	
CN33	3711-004484	CONNECTOR-HEADER	SMW200-05,NTR,BOX,5P,1R,2mm,STRAIGHT,SN	1	SNA	
CN91	3711-004712	CONNECTOR-HEADER	SMW200-09,WHT,BOX,9P,1R,2mm,STRAIGHT,SN	1	SNA	
CN51	3711-000015	CONNECTOR-HEADER	SMW250-02,WHT,BOX,2P,1R,2.5mm,STRAIGHT,SN	1	SNA	
CN11	3711-000880	CONNECTOR-HEADER	SMW250-03,RED,BOX,3P,1R,2.5mm,STRAIGHT,SN	1	SNA	
CN41	3711-000940	CONNECTOR-HEADER	SMW250-04,WHT,BOX,4P,1R,2.5mm,STRAIGHT,SN	1	SNA	
CN61	3711-001036	CONNECTOR-HEADER	SMW250-06,BLU,BOX,6P,1R,2.5mm,STRAIGHT,SN	1	SNA	
CN43	3711-000178	CONNECTOR-HEADER	YW396-02V,WHT,1WALL,2P,1R,3.96mm,STRAIGHT,SN	1	SNA	
CN31	3711-000177	CONNECTOR-HEADER	YW396-02V,RED,1WALL,2P,1R,3.96mm,STRAIGHT,SN	1	SNA	
CN72	3711-000203	CONNECTOR-HEADER	YW396-03AV,WHT,1WALL,2P,1R,7.92mm,STRAIGHT,SN	1	SNA	
CN71	3711-000321	CONNECTOR-HEADER	YW396-07AV,WHT,1WALL,7P,1R,3.96mm,STRAIGHT,SN	1	SNA	
CN74	3711-000357	CONNECTOR-HEADER	YW396-09AV,WHT,1WALL,5P,1R,7.92mm,STRAIGHT,SN	1	SNA	
CN44	3711-000240	CONNECTOR-HEADER	YW396-04V,WHT,1WALL,4P,1R,3.96mm,STRAIGHT,SN	1	SNA	
PCB	DB41-00180A	PCB	FR1,W250xL160,1x2,REV No.-30629A5	1	SNA	

■ Outdoor PCB : DB93-02919Y/T

Location No.	Code No.	Description	Specification	Q'TY	SA/SNA	Remark
C202, C301, C901~C904 C102, C104, C201, C302~C308	2203-001562	C-CER, CHIP	10nF, +80-20%, 50V, Y5V, TP, 2012	6	SNA	
C401~C404, C503~C505 C801~C804, C905~C907	2203-000192	C-CER, CHIP	100nF, +80-20%, 50V, Y5V, TP, 2012,	24	SNA	
R203~R205, R905~R911	2007-000468	R-CHIP	1Kohm, 5%, 1/8W, TP, 2012	10	SNA	
R201, R302, R303, R312~R319, R407 R501~R503, R513~R517, R901~R904	2007-000300	R-CHIP	10Kohm, 5%, 1/8W, TP, 2012	24	SNA	
R301	2007-000023	R-CHIP	120ohm, 5%, 1/8W, TP, 2012	1	SNA	
R202	2007-000686	R-CHIP	3.3Kohm, 5%, 1/8W, TP, 2012	1	SNA	
R404~R406, R408, R504~R506	2007-000766	R-CHIP	330ohm, 5%, 1/8W, TP, 2012	7	SNA	
R402, R403	2007-000454	R-CHIP	18Kohm, 1%, 1/8W, TP, 2012	2	SNA	
R401	2007-000613	R-CHIP	24Kohm, 1%, 1/8W, TP, 2012	1	SNA	
J8, J9, J10, J22	2007-000033	R-CHIP	0ohm, 5%, 1/4W, DA, TP, 3216	4	SNA	
D201, D901~D916	0401-000133	DIODE-SWITCHING	LL4148, 100V, 200MA, SOD-80C, TP	17	SNA	
Q201	0501-000534	TR-SMALL SIGNAL	2SC2412K, NPN, 200mW, SOT-23, TP, 1	1	SNA	
Q901~Q904	0504-000001	TR-DIGITAL	DTA114EKA, PNP, 200MW, 10K/10K, SOT-23, TP	4	SNA	
Q101	0504-001064	TR-DIGITAL	DTC114EKA, NPN, 200MW, 10K/10K, SOT-23, TP	1	SNA	
D105	0402-000137	DIODE-RECTIFIER	1N4007, 1000V, 1A, DO-41, TP	1	SNA	
RJ01、RJ04	2001-000068	R-CARBON	12Kohm, 5%, 1/4W, TP, 2.4X6.5MM	2	SNA	
RJ03	2001-000588	R-CARBON	3.3Kohm, 5%, 1/4W, TP, 2.4X6.5MM	1	SNA	
RJ02	2001-000798	R-CARBON	5.1Kohm, 5%, 1/4W, TP, 2.4X6.5MM	1	SNA	
K5~K7、K9、K11、J1~J7、J11~J21、J23~J34	3812-001283	JUMPER	TCWA,300V,52mm(TAPPING), 1/0.6mm	38	SNA	
BD71	0402-001298	DIODE-BRIDGE	DF06S，600V/1A，SMD-4	1	SNA	
C105	2401-001397	C-AL	470uF, 20%, 25V, GP, TP, 10x12.5mm,	1	SNA	
C101, C103	2401-000173	C-AL	1000uF, 20%, 35V, GP, TP, 13x25, 5	2	SNA	
K1~K4	3404-001220	SWITCH-PUSH	TSTB-2	4	SNA	
X501	2802-001198	RESONATOR-CERAMIC	10MHZ, 0.5%, BK, 8X3X5.5MM	1	SNA	
F701	3601-000297	FUSE	250V, 5A, TIME-LAG, GLASS, 5x20mm	1	SNA	
F101	3601-001308	FUSE	250V，1.6A,TIME-LAG,PLASTIC	1	SNA	
IC05~IC07	0506-000180	IC-DARLINGTON DRIVER	ULN2003	3	SNA	
IC01	DB62-03085A	HEAT SINK	A6063, 25, 15, 15	1	SNA	
	6002-000630	SCREW TAPPING	MSCPHTT3*8	1	SNA	
DIS1, DIS2	DB07-00054A	LED DISPLAY-7SEG	CSD-322GLH	2	SNA	
FT71	DB27-00022A	NOISE FILTER	JL2510-0008，8mH, 5A	1	SNA	
XC71、XC72	2301-001220	C-FILM	100nF,10%,275V,BK,18*6*12,15	2	SNA	
RY71, RY76	3501-001154	RELAY-MINIATURE	PCJ-112D3M，12VDC，3A	2	SNA	
RY74,RY75	3501-001163	RELAY-MINIATURE	CS11-12SH	2	SNA	
VA72, VA73	1405-000147	VARISTOR	TVR14471,470V,4500A	2	SNA	
VA71	1405-000154	VARISTOR	TVR14561,560V,4500A	1	SNA	
GT-2	3712-001062	CONNECTOR-TERMINAL	TJC4-2A,WHT,8mm	1	SNA	
PCB BOARD	DB41-00304A	PCB BOARD	FR-1，W196xH98，NO-40426A5	1	SNA	
	DB68-02809A	LABEL BAR CODE	W170，L115	1	SNA	
SW1	DB34-00009A	SWITCH-DIGITAL	RS32314	1	SNA	

■ Outdoor PCB : DB93-02919Y/T(cont.)

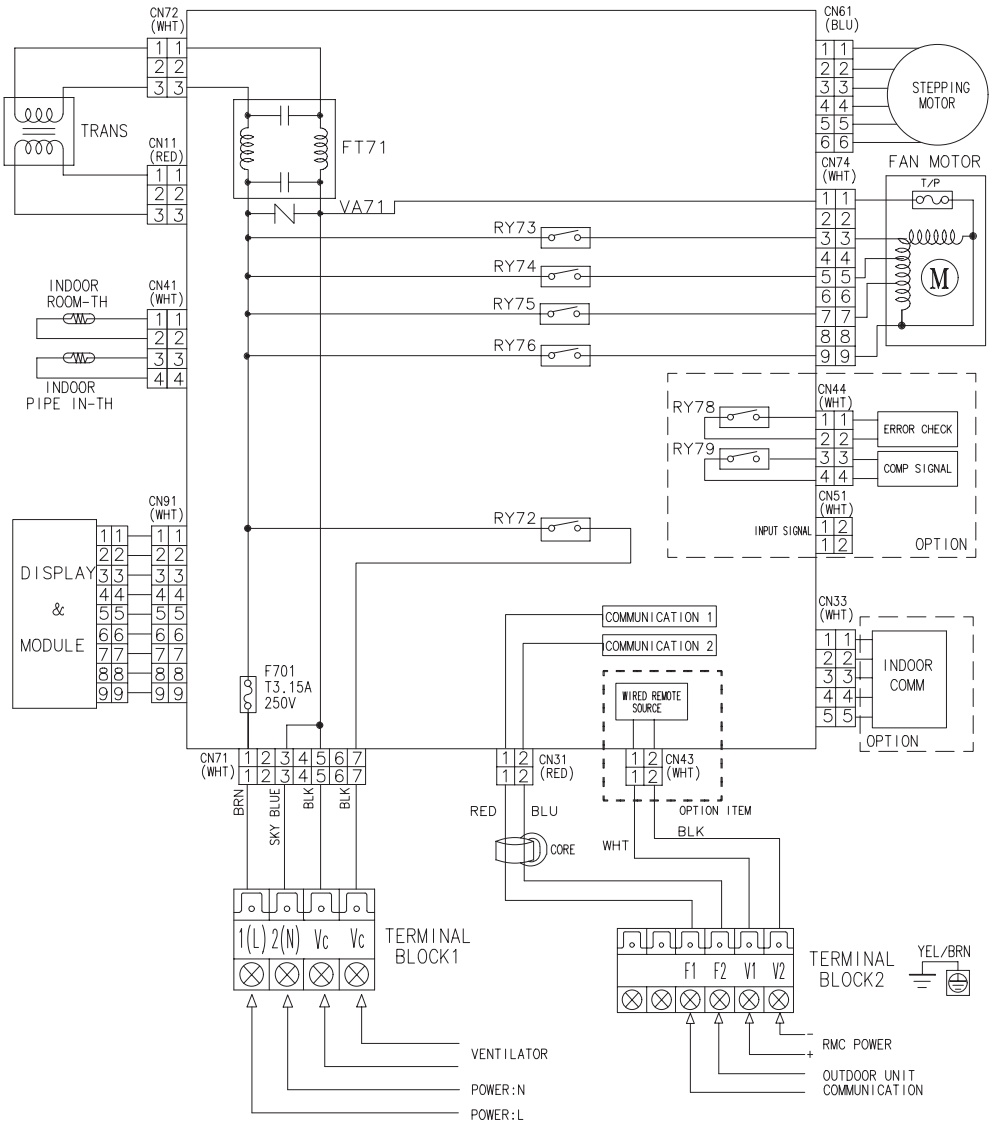
Location No .	Code No.	Description	Specification	Q'TY	SA/SNA	Remark
CN42	3711-000015	CONNECTOR-HEADER	SMW250-02,WHT,BOX,2P,1R,2.5mm,STRAIGHT,SN	1	SNA	
CN11	3711-000880	CONNECTOR-HEADER	SMW250- STRAIGHT,SN	1	SNA	
CN41	3711-000940	CONNECTOR-HEADER	SMW250-04,WHT,BOX,4P,1R,2.5mm,STRAIGHT,SN	1	SNA	
CN31	3711-000177	CONNECTOR-HEADER	YW396-02AV,RED	1	SNA	
CN12	3711-000176	CONNECTOR-HEADER	YW396-02AV,BLU,	1	SNA	
CN74	3711-003406	CONNECTOR-HEADER	YW396-03AV,YEL	1	SNA	
CN71	3711-003405	CONNECTOR-HEADER	YW396-03AV,BLK	1	SNA	
CN73	3711-000262	CONNECTOR-HEADER	YW396-05AV,WHT	1	SNA	
CN75	3711-000315	CONNECTOR-HEADER	YW396-07AV,WHT	1	SNA	
CN61	3711-001001	CONNECTOR-HEADER	B5B-XH-A,BLU,BOX,5P,1R,2.5mm,STRAIGHT,SN	1	SNA	
CN70	3711-000744	CONNECTOR-HEADER	YDW236-01,WHT,BOX,1P,1R,6MM,STRAIGHT,NI	1	SNA	
F701	DB61-00924A	FUSE HOLDER	FH-51B	1	SNA	
IC09	1006-001297	IC-BUS TRANSCEIVER	LMS485	1	SNA	
IC04	DB09-00260C	IC MICOM	MB89538AP-101,64P,+5V,10MHz,STM-0333-BC,-,8BIT,STICK,DIP,750M	1	SNA	
IC01	1203-000243	IC-POSI.FIXED REG.	KA7812A,T0-220 , 3P,-,PLASTIC,11.5/12.5V 16W,0to+125 ℃, 1A, -, ST	1	SNA	
IC02	1203-000274	IC-POSI.FIXED REG.	KA7805A,3P,-,PLASTIC,4.8/5	1	SNA	
IC03	1202-000001	IC-VOLTAGE COMP.	KA7533,TO-92,3P,-,SINGLE,-,-,PLA	1	SNA	
DS71	DB47-00016A	POSISTOR	DSA-332MA,2pF MAX,100MOhm,ASM-3500	1	SNA	
CD31,CD32	0406-001109	DIODE-TVS	SAC5.0,7.6/-/-V,500W,DO-15	2	SNA	

■ Display PCB : DB93-01476B

Location No.	Code No.	Description	Specification	Q'TY	SA/SNA	Remark
C01	2202-000173	C-CERAMIC,MLC-AXIAL	1nF,10%,50V,Y5P,TP,1.9x3.5	1	SNA	
C02	2203-000192	C-CERAMIC,MLC-AXIAL	100nF,+80-20%,50V,Y5V,TP,3.5x1	1	SNA	
R01~R03	2001-000109	R-CARBON(S)	470ohm,5%,1/2W,AA,TP,2.4x6.4mm	3	SNA	
R04	2003-000578	R-CARBON(S)	220ohm,5%,1/2W,AA,TP,2.4x6.4mm	1	SNA	
D01	0401-000005	DIODE-SWITCHING	1N4148,100V,200mA,DO-35,TP	1	SNA	
SW01	3404-000176	SWITCH-TACT	KPT-1105A,12V,50mA,120gf,6x6mm,SPST	1	SNA	
LD01~LD06	0601-001059	LED ROUND	SY5511 YEL,5mm,570nm	6	SNA	
CN01	3711-004712	CONNECTOR	SMAW200-09","WHT	1	SNA	
REM01	0609-001189	MODULE REMOCON	FRP4021H10, 38KHz,-,Y,-,FO	1	SNA	
MAIN PCB	DB93-01476B	PCB BOARD	73mmx37mm, FR-1	1	SNA	

7. Wiring Diagram

7-1 Indoor Unit



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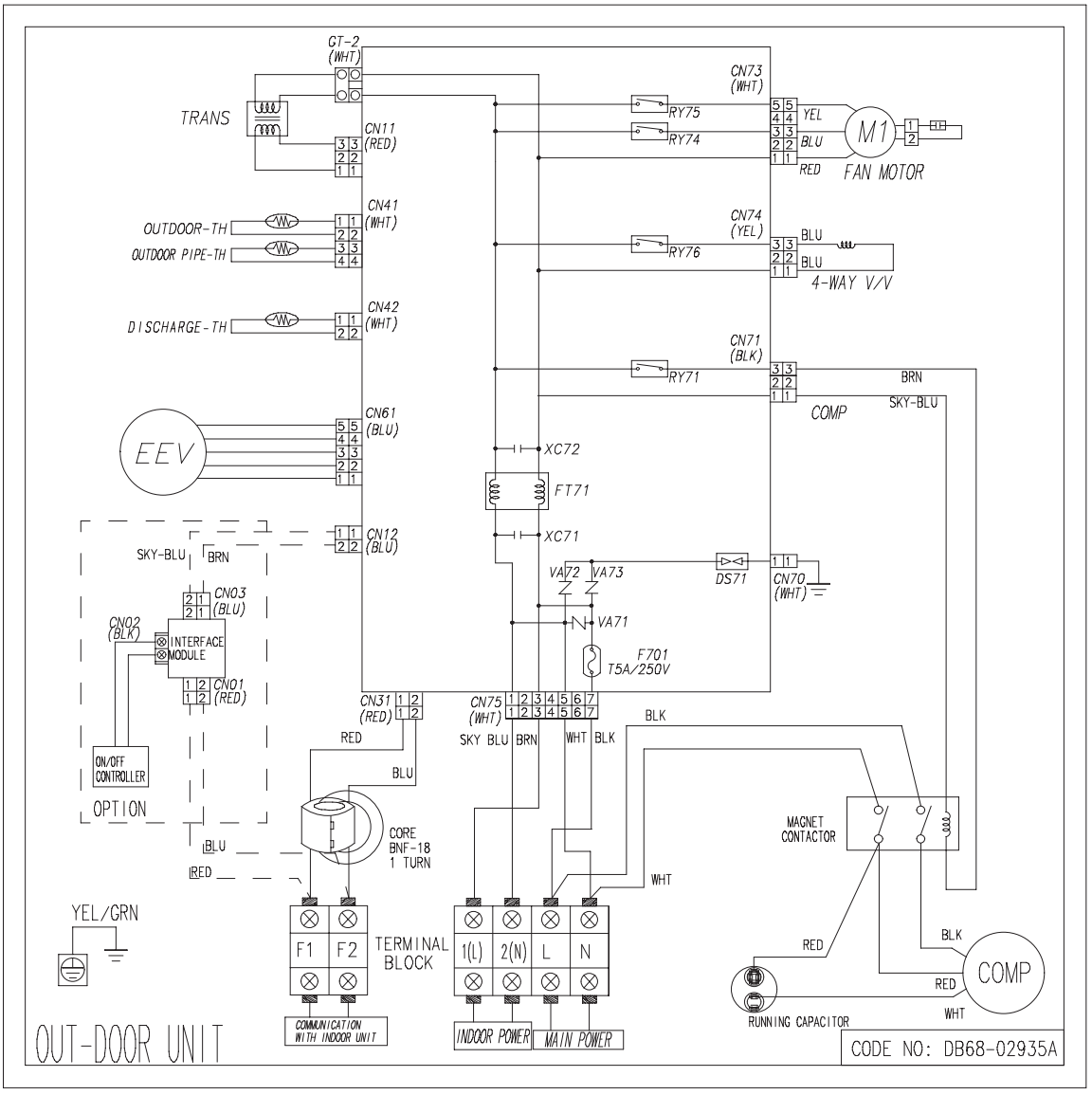
7-2 Outdoor Unit



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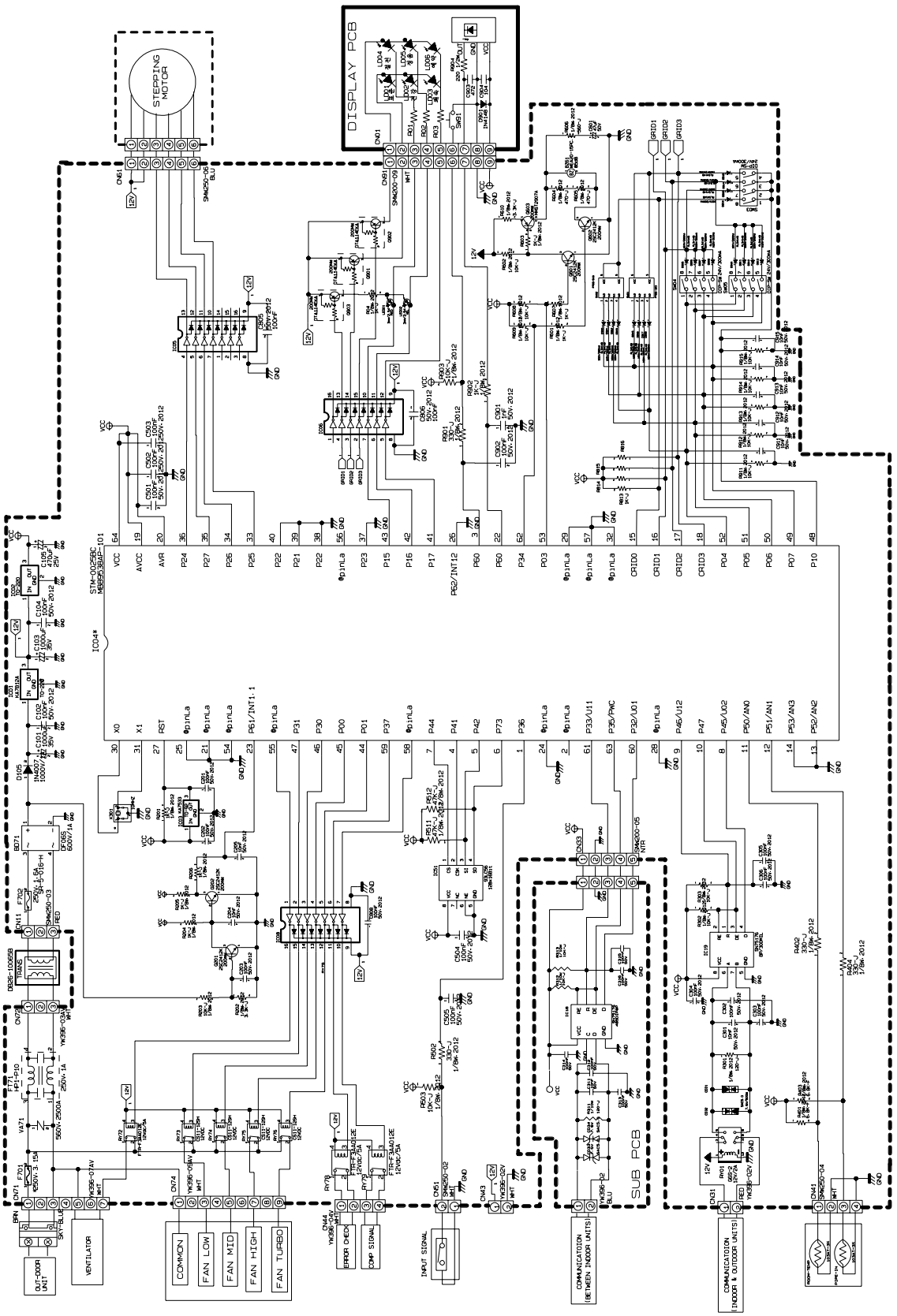
8. Schematic Diagram

8-1 Indoor Unit



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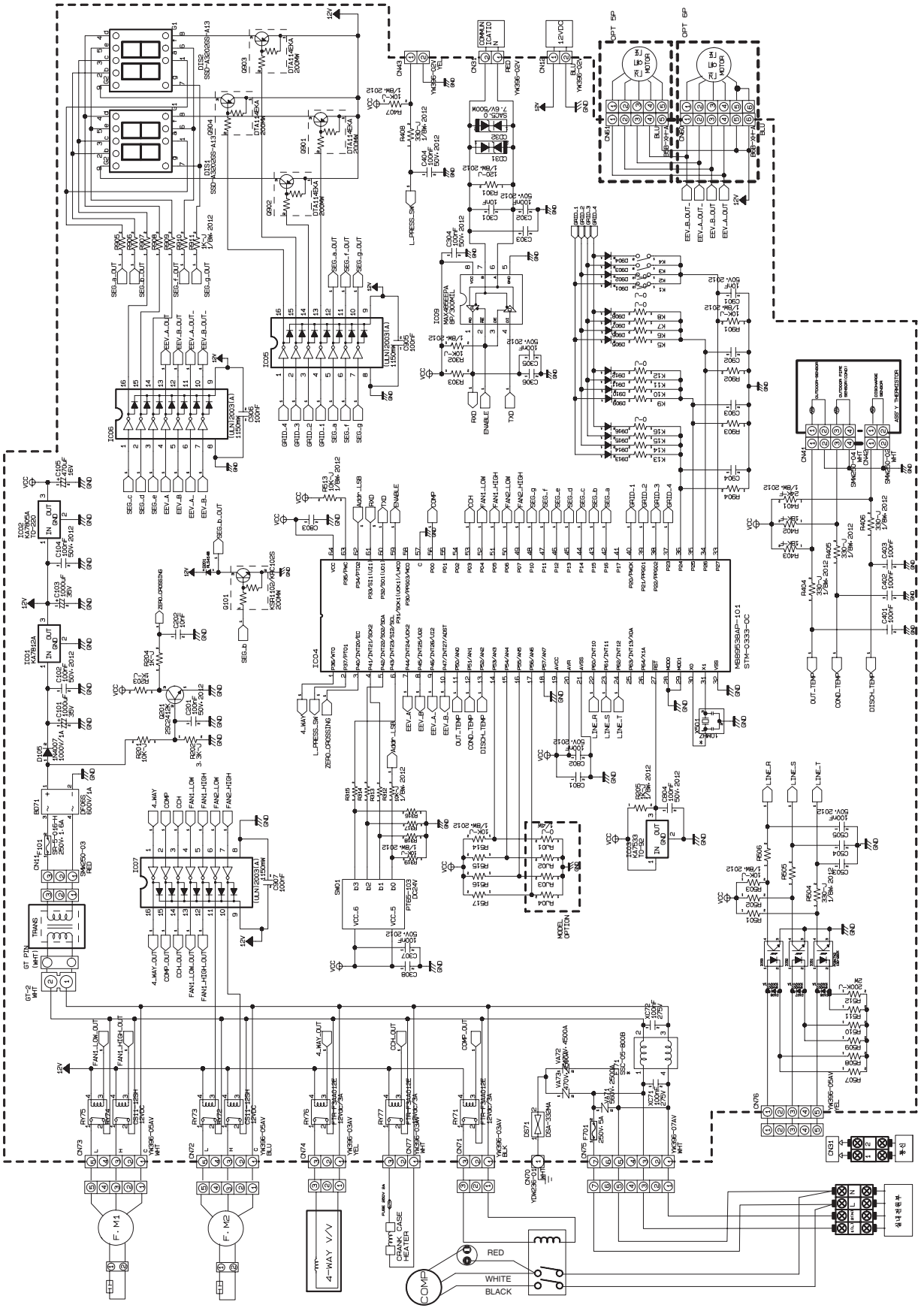
8-2 Outdoor Unit



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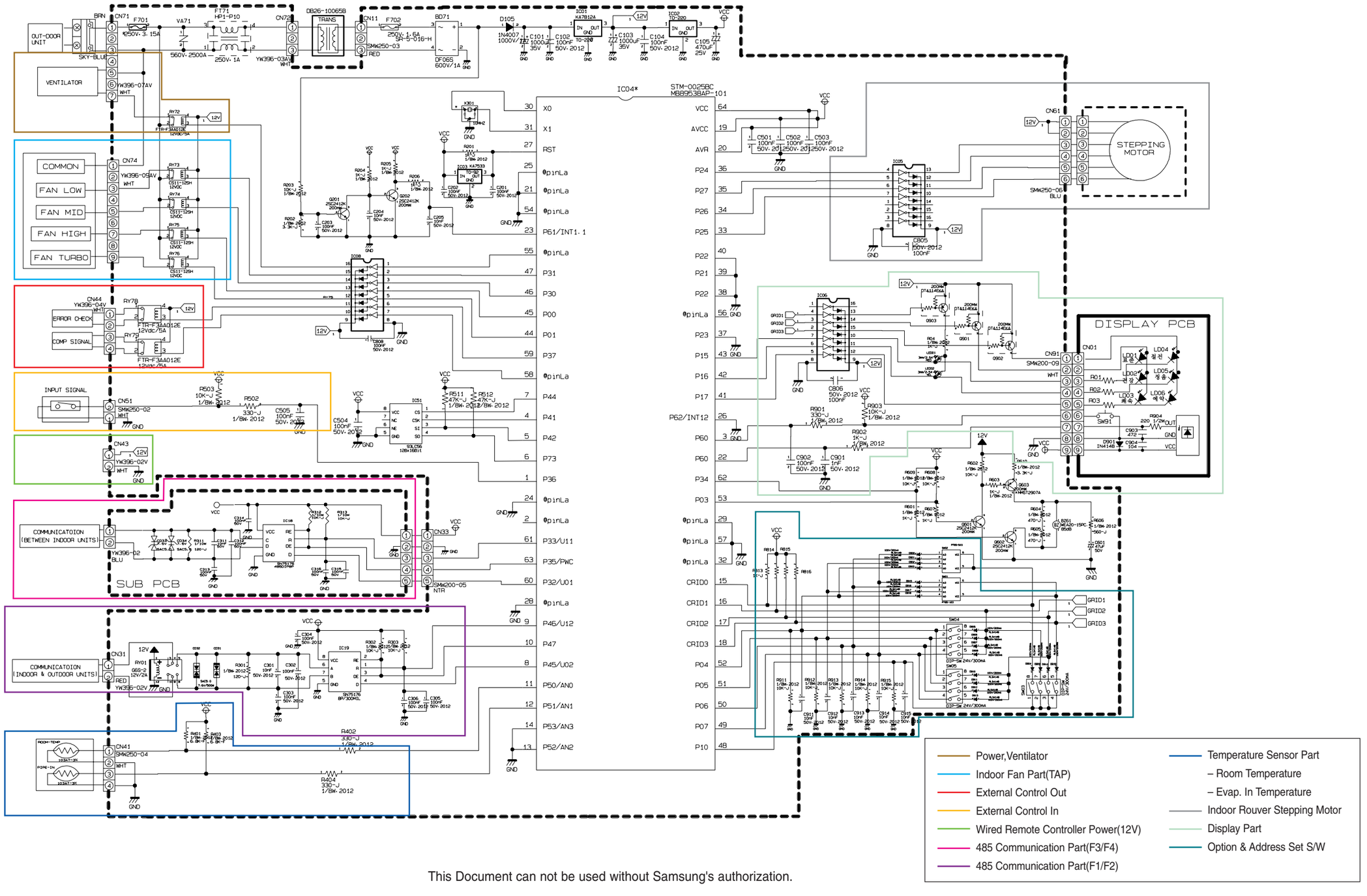
9. Circuit Descriptions

9-1 PCB Circuit Descriptions

9-1-1 Indoor Unit



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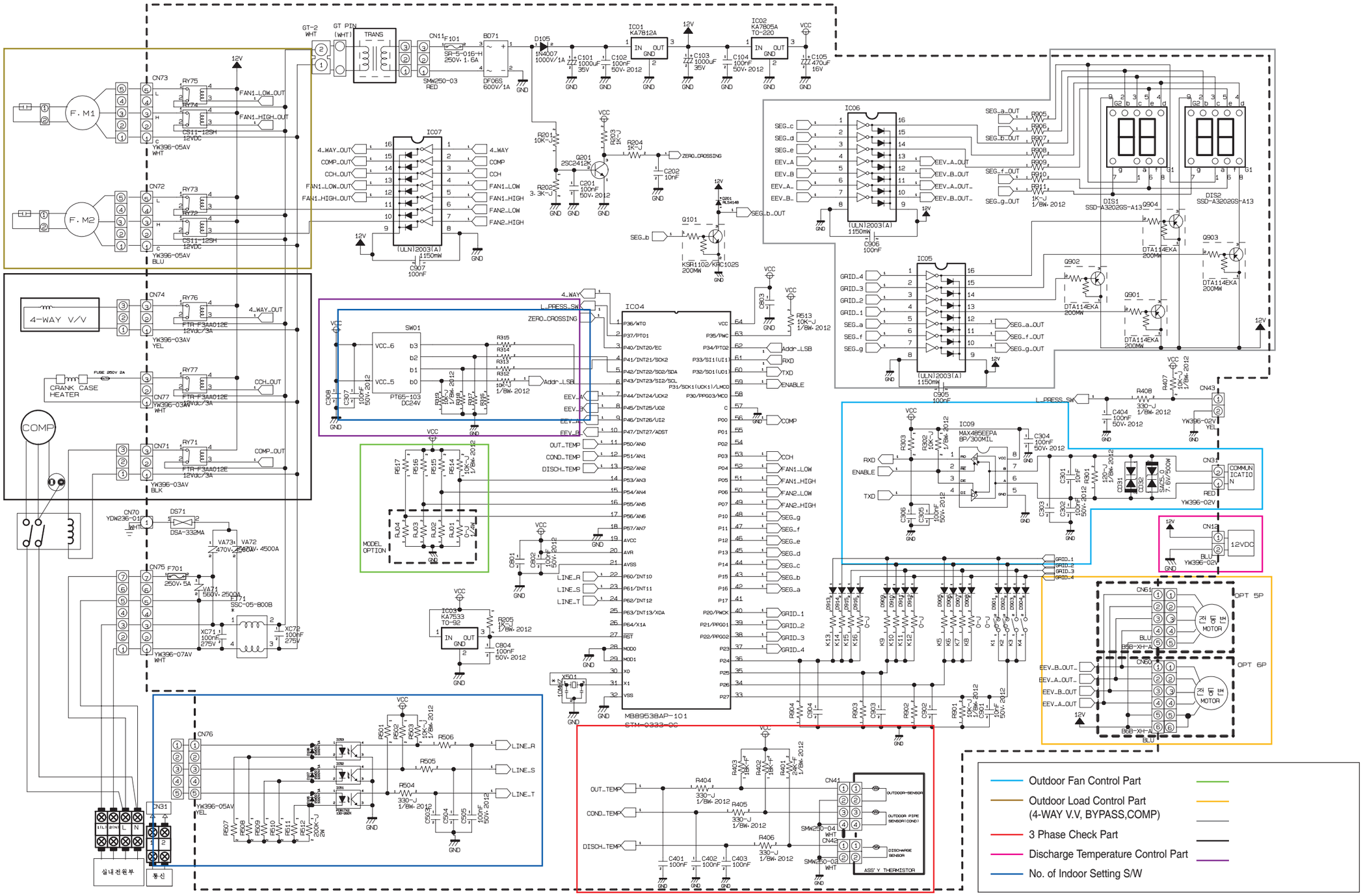
9-1-2 Outdoor Unit



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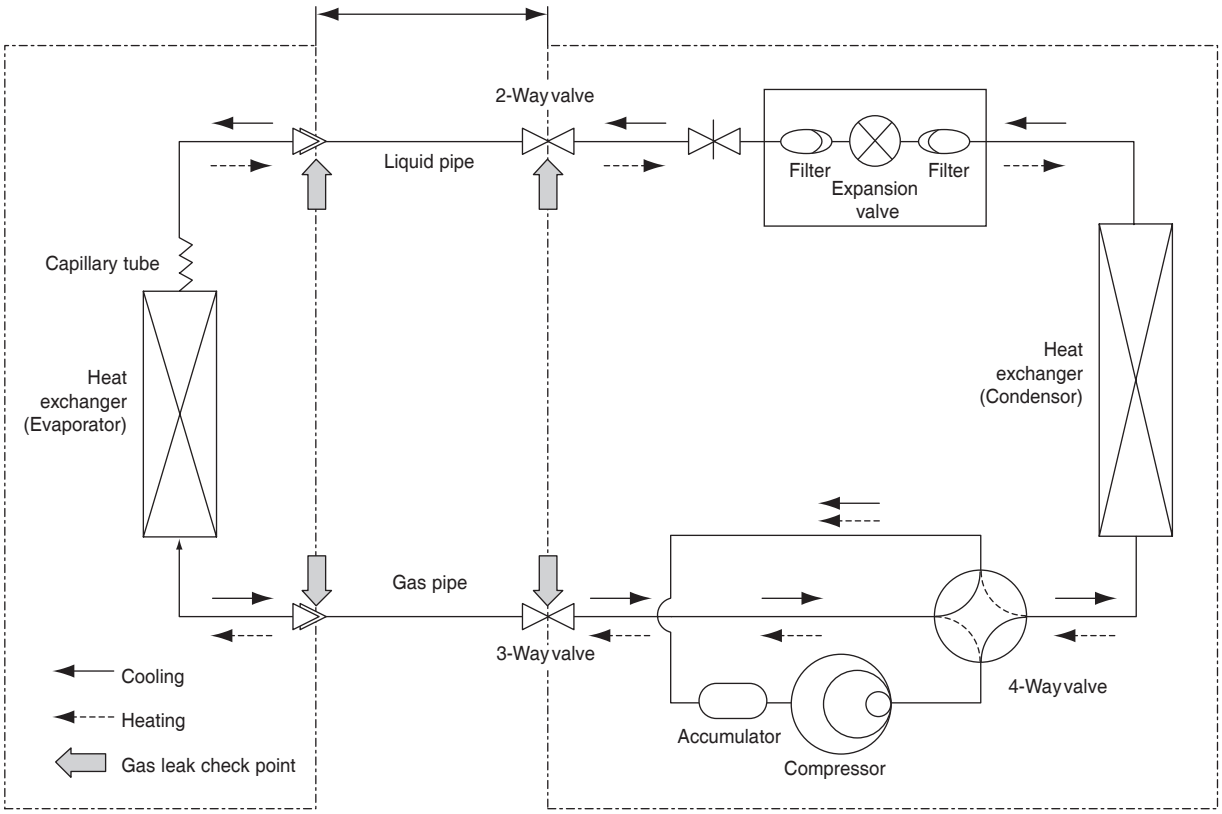
9-2 Refrigerating Cycle Diagram

Indoor Unit **Outdoor Unit**

❋ Allowable pipe length : Max. 30m
❋ Allowable drop distance : Max. 15m

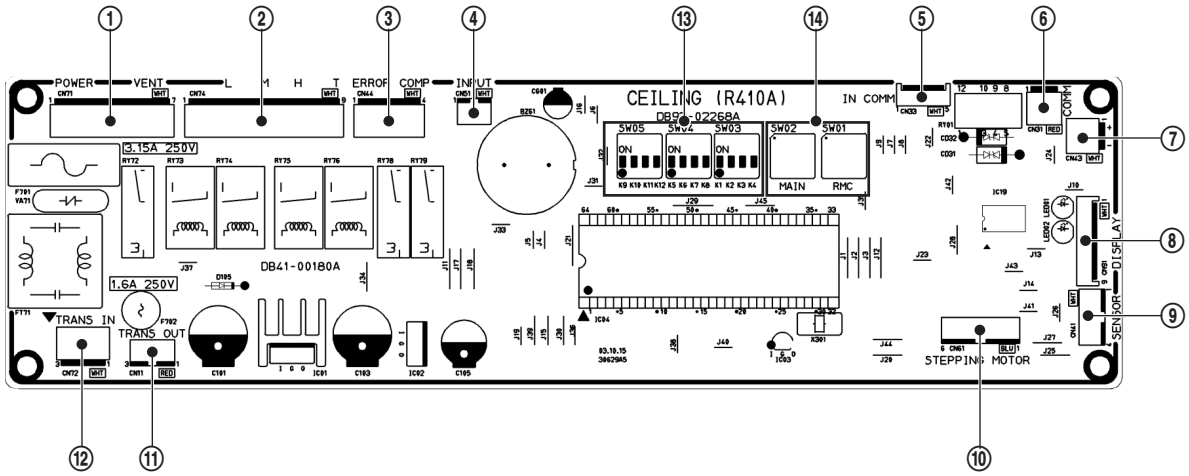


✳ Amount of refilling per extension length of 1m; When extending the pipe length by more than 7.5m,add “Q” of refrigerant for extrameter.

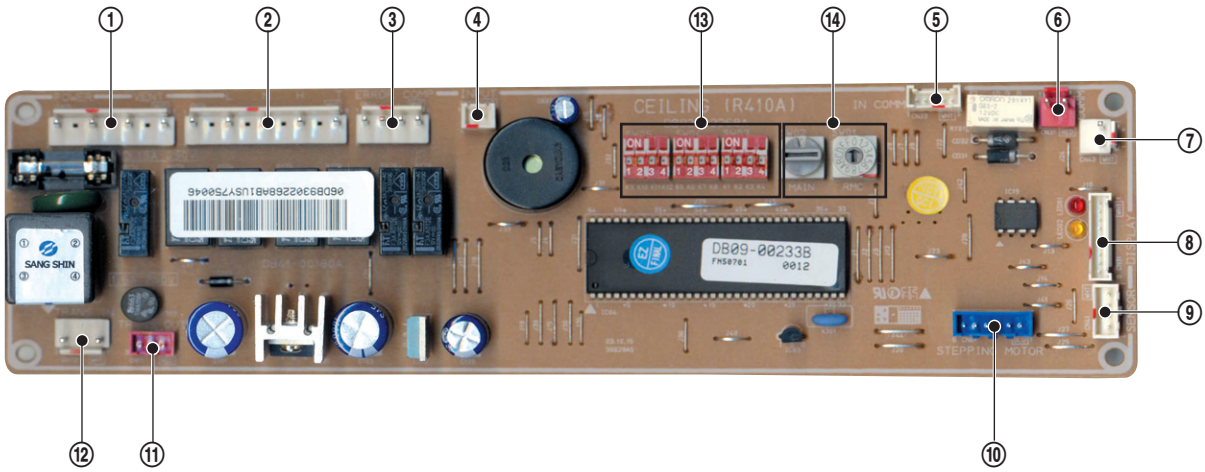
Model	“Q” (R410A)
UH052EAMC	25 g/m
UH070EAMC	40 g/m

10. PCB Diagram

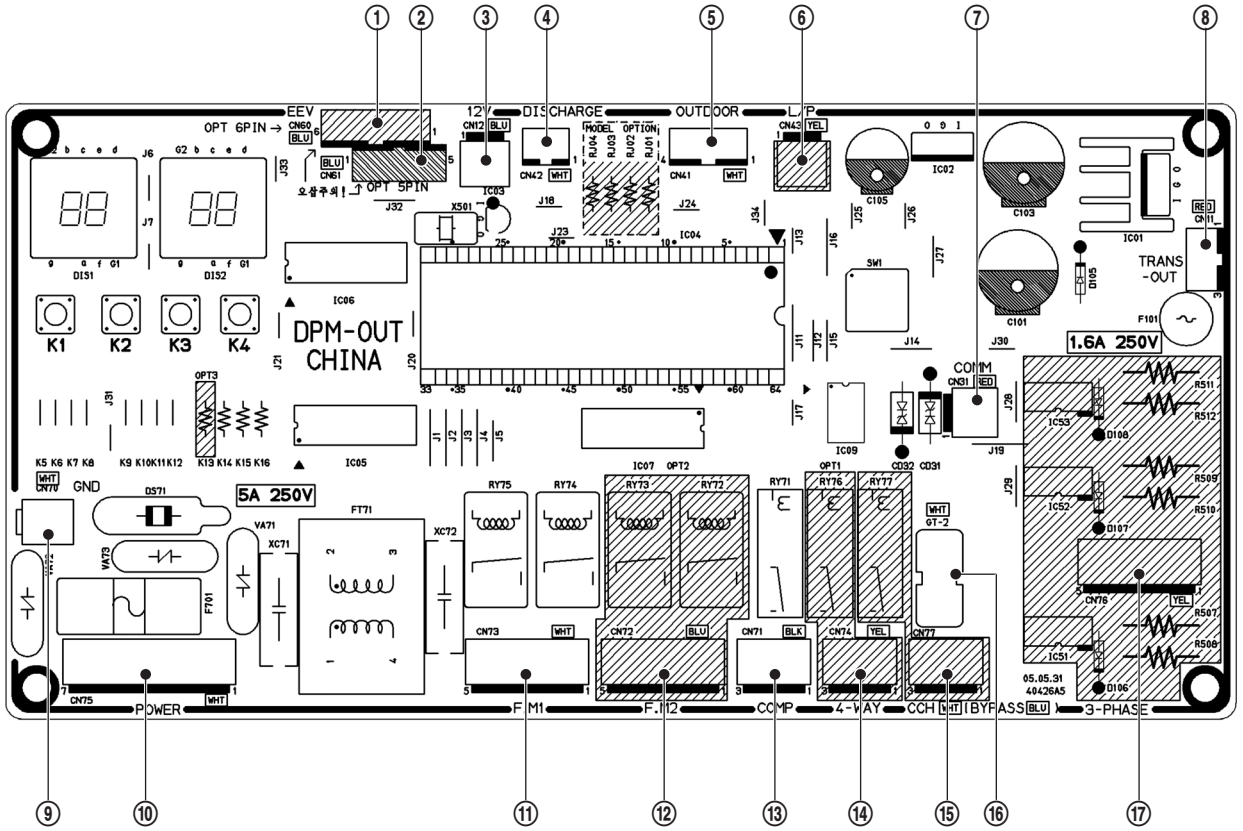
10-1 Indoor Unit



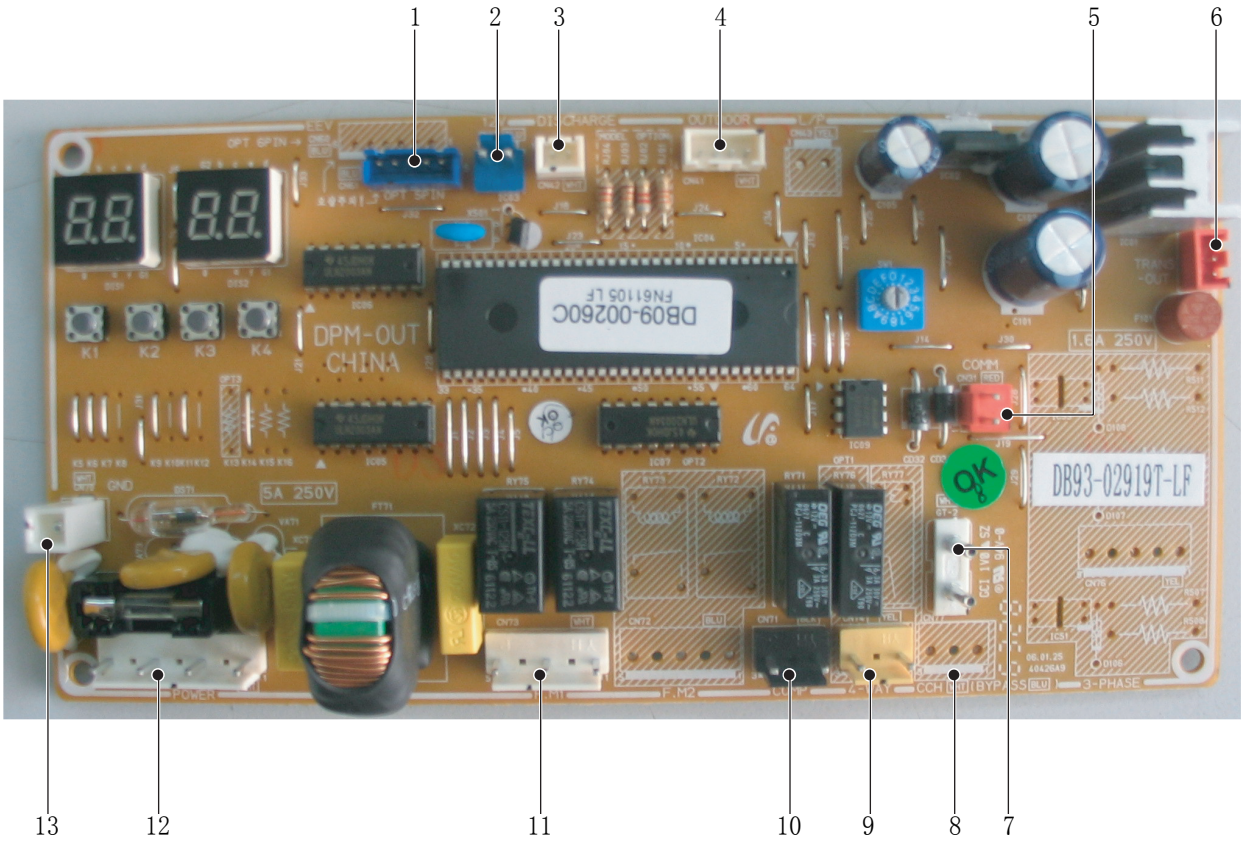
①	Power &Ventilator
②	Indoor Fan(TAP)
③	External control OUT(ERROR,COMP.State)
④	External control IN(ON/OFF Control)
⑤	Sub-PCB Communication(F3/F4)
⑥	COM1(F1/F2)
⑦	DC12V OUT(Wired Remote Controller Power)
⑧	Display
⑨	Room/Eva.-in Sensor
⑩	Stepping Motor(Rouver)
⑪	Trans-out
⑫	Trans-in
⑬	Indoor Option S/W
⑭	Indoor Address S/W(Main,RMC)



①	Power &Ventilator : YW396-07AV(WHT)
②	Indoor Fan(TAP) : YW396-09AV(WHT)
③	External control OUT(ERROR,COMP.State) : YW396-04V(WHT)
④	External control IN(ON/OFF Control) : SMW250-02(WHT)
⑤	Sub-PCB Communication(F3/F4) : SMW200-05(WHT)
⑥	COM1(F1/F2) : YW396-02V(RED)
⑦	DC12V OUT(Wired Remote Controller Power) : YW396-02V(WHT)
⑧	Display : SMW200-09(WHT)
⑨	Room/Eva.-in Sensor : SMW250-04(WHT)
⑩	Stepping Motor(Rouver) : SMW250-06(BLU)
⑪	Trans-out : SMW250-03(RED)
⑫	Trans-in : YW396-03AV(WHT)
⑬	Indoor Option S/W : SMW250-03(BLU)
⑭	Indoor Address S/W(Main,RMC) : SMW200-10(WHT)



①	EEV(2,000 Step)	⑨	GROUND
②	EEV(480 Step)	⑩	Main Power In
③	Transmitter Power(12V)	⑪	Outdoor Fan 1
④	Discharge Temperature Sensor	⑫	Outdoor Fan 2
⑤	Outdoor Temperature Sensor	⑬	Compressor Output
	Outdoor Pipe Temperature Sensor	⑭	4-Way Valve Output
⑥	Low Pressure S/W	⑮	Bypass
⑦	Communication	⑯	Transformer In
⑧	Transformer Out	⑰	3 Phase Check

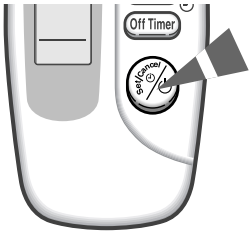
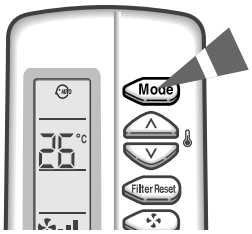
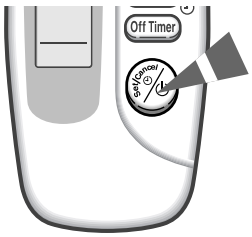
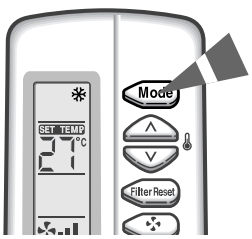
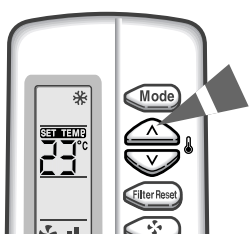


1	EEV(480 Step) : B5B-XH-A(BLU)	7	Transformer In : GT-2(WHT)
2	Transmitter Power(12V) : YW396-02V(WHT)	8	Bypass : YW396-03AV(WHT)
3	Discharge Temperature Sensor : SMW250-02(WHT)	9	4-Way Valve Output : YW396-03AV(YEL)
4	Outdoor Temperature Sensor : SMW250-04(WHT)	10	Compressor Output : YW396-03AV(BLK)
	Outdoor Pipe Temperature Sensor : SMW250-04(WHT)	11	Outdoor Fan 1 : YW396-05AV(WHT)
5	Communication : YW396-02V(RED)	12	Main Power In : YW396-07AV(WHT)
6	Transformer Out : SMW250-03(RED)	13	GROUND : YDW236-01(WHT)

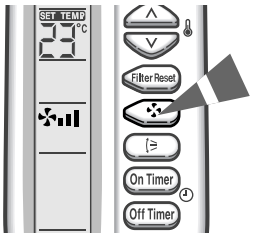
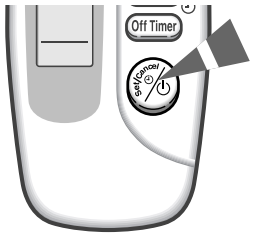
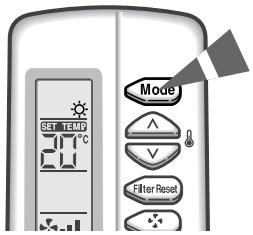
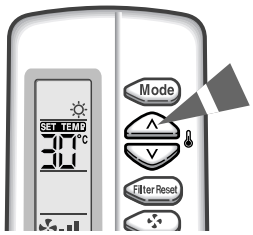
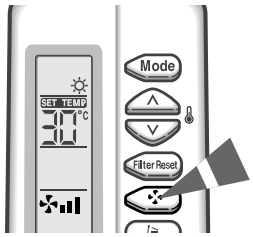
11. Operating Instruction and Installation

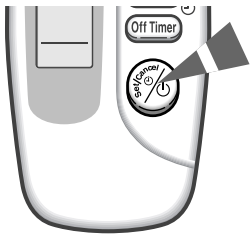
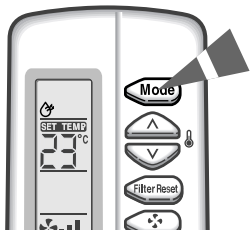
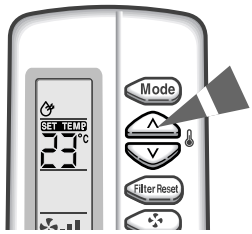
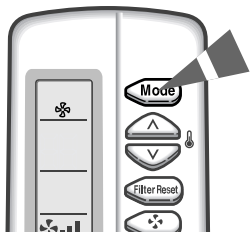
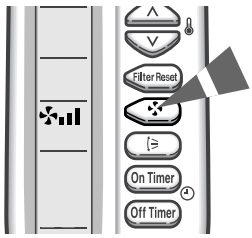
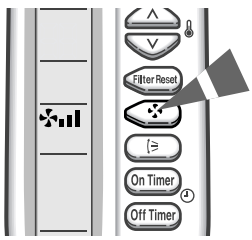
11-1 Main Function

11-1-1 Wireless Remote Controller

Mode	Explanation	Remark
Selecting the Automatic Operating Mode	1. If necessary, press (On/Off) button.	
	2. To select the AUTO mode, press the Mode button until AUTO is displayed at the top of the wireless remote controller.	
	3. To adjust the temperature, press the buttons one or more times until the required temperature is displayed. Possible temperatures are between 18°C and 30°C inclusive.	
Cooling Your Room	1. If necessary, press (On/Off) button.	
	2. To select the COOL mode, press the Mode button until ❄ is displayed at the top of the wireless remote controller.	
	3. To adjust the temperature, press the buttons one or more times until the required temperature is displayed. Possible temperatures are between 18°C and 30°C inclusive.	

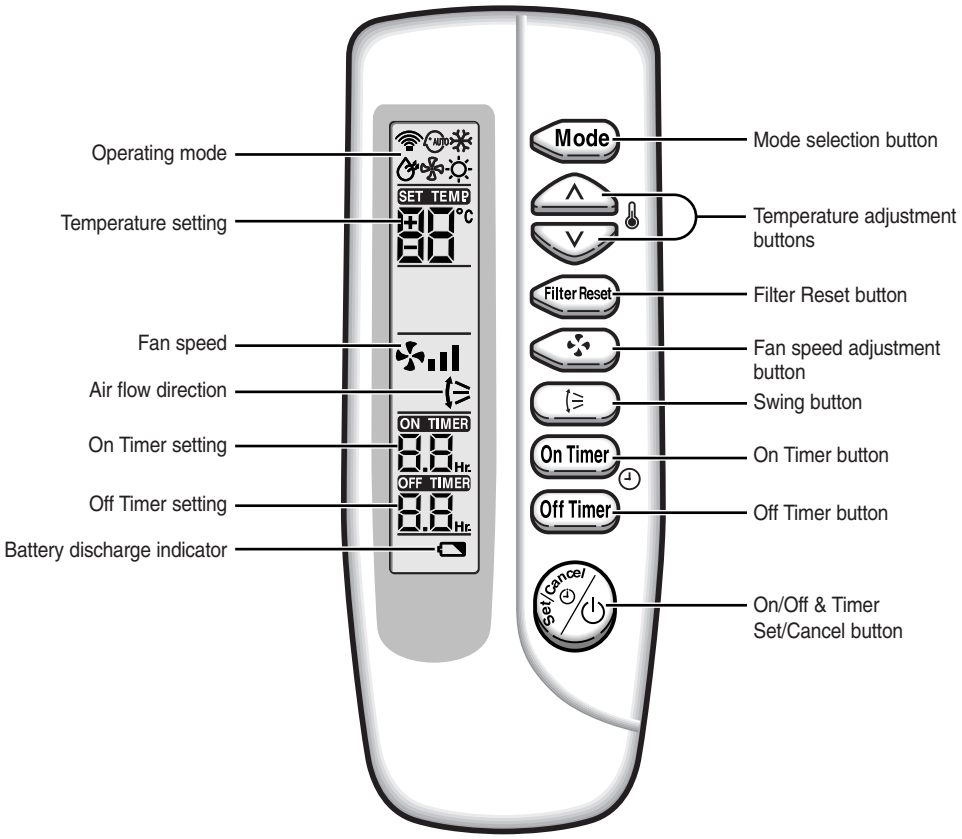
Wireless Remote Controller(cont.)

Mode	Explanation	Remark
	4. Select the fan speed by pressing the button one or moretimes until the intended value is displayed : Automatic(rotated : → →) Low Medium High	
Heating Your Room **(Except cooling only models)**	1. If necessary, press (On/Off) button.	
	2. To select the HEAT mode, press the button until is displayed at the top of the wireless remote controller.	
	3. To adjust the temperature, press the buttons one or more times until the required temperature is displayed. Possible temperatures are between 16°C and 30°C inclusive.	
	4. Select the fan speed by pressing the button one or more times until the intended value is displayed : Automatic(rotated : → →) Low Medium High	

Mode	Explanation	Remark
Removing Excess Humidity	1. If necessary, pres (On/Off) button.	
	2. To select the DRY mode, press the Mode button until is displayed at the top of the wireless remote controller.	
	3. To adjust the temperature, press the buttons one or more times until the required temperature is displayed. Possible temperatures are between 18°C and 30°C inclusive.	
Airing Room	1. If necessary, press (On/Off) button.	
	2. To select the FAN mode, press the Mode button until is displayed at the top of the wireless remote controller.	
	3. Select the fan speed by pressing the button one or more times until the intended value is displayed: Low Medium High	

11-2 Wireless Remote Control-Buttons and Display

To use the wireless remote controller, refer to an appropriate manual.
(For cooling only mode, there is not a " ☼ " mark)



Note : • After cleaning the air filter, press the Filter Reset button.

12. Troubleshooting

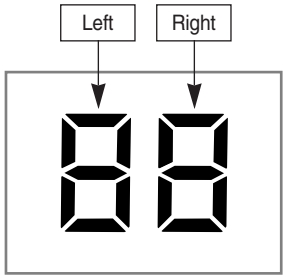
12-1 Operation Specification

12-1-1 Tracking process marked on display part

• Left numeral is an address that outdoor unit transfers communication.
0 - 1 - 2 - 3 ... - F (Calling indoor unit)

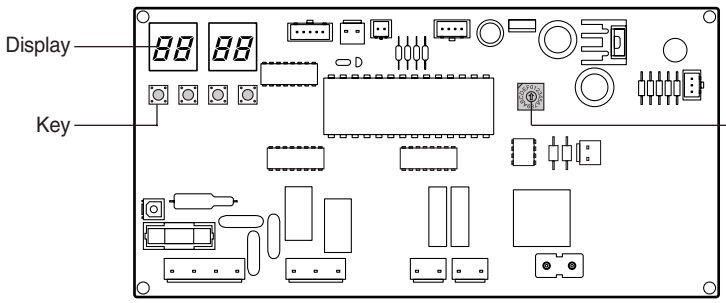
• Right numeral marks address that is answered.

• During the tracking, left calls indoor unit through
0 - 1 - 2 - 3 ... - d - E - F and checks. At this time connected indoor unit set on " 0 " and the indoor unit set 0 address marked on right.
Right side mark is marked by when left side is 0.
(If SW02(MAIN) that set indoor unit address is controlled to " 0 ", indoor unit number marked on outdoor unit is marked by " 0 ".)



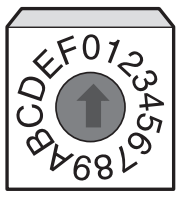
DISPLAY PART (DS1)

12-1-2 Option set part for Outdoor unit PCB



Setting switch for indoor unit installation numbers

Counts of Indoor Unit Installation	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Numbers of the switch	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F



● Example : When the installed indoor unit is one, control the arrow of switch forward to '0' or '1' as figure.

12-1-3 Wired remote controller display specification at error occurring

■ A Type(COM1) Error Description

Display	Description	Remarks
Er ↔ EA	Communication error when there is no signal from outdoor unit to wired remote controller.	Communication error In case of no signal for 2 minutes
Er ↔ E8	Communication error when there is no answer from wired remote controller to indoor unit.	Indoor unit related error
Er ↔ o0	Indoor unit float switch error	
Er ↔ 90	Indoor unit room temperature sensor open/short error	
Er ↔ r0	Indoor unit evaporator temperature sensor open/short error	
Er ↔ F0	EEPROM error	
Er ↔ U0	EEPROM OPTION error	
Er ↔ u0	Fan starting error (1-way cassette model only)	
Er ↔ Eo	Outdoor unit error display when indoor unit stop • Outdoor unit sensor error (temperature and pressure) • Restart failure error • Self diagnose of Electronic valve opening /closing 6 times • Reverse phase, E2(Communication error)	Outdoor related error (Outdoor related error displays key error)
Overlapping error mark displays error in order, the next error is displayed at error correction.		

■ B Type(COM2) Error Description

Display	Description	Remarks
416	Compressor down due to protection control of the discharge temperature sensor	Error about protection control of the outdoor unit
450	Control due to the condenser temperature sensor when cooling mode	
451	Error of the low pressure switch (Protection control)	
425	Reverse phase error (Protection control)	
551	In removing frost	
221	Error of the outdoor temperature sensor (Open/Short)	Error about the outdoor unit sensor (Open/Short) Detection during the operation of the indoor unit (sensing and sending errors into the communication data)
230	Error of condensor temperature sensor (Open/Short)	
251	Error of discharge temperature sensor (Open/Short)	
201	- System down caused by communication error after completion of tracking - Mismatching of the indoor unit numbers set with those communication after completion of 5 times tracking	Communication and the indoor unit errors
121	Error of temperature sensor in the indoor unit (Open/Short)	Self-diagnosis of the indoor and outdoor unit
122	Error of the heat exchanger sensor in the indoor unit (Open/Short)	
419	Error of electronic expansion valve open in the outdoor unit (when it is detected more than once)	
422	Error of electronic expansion valve close in the outdoor unit (when it is detected more than once)	
601	Error of communication between the indoor unit and the wired remote controller	Wired remote controller errors
602	Master wired remote controller ↔ Slave wired remote controller	
606	COM1/COM2 Cross-installed error	
0EA	Error of setting option for wired remote controller COM2	

12-2 Troubleshooting

When error occurs in air conditioner, error code is displayed on indoor unit display lamp and outdoor unit.

12-2-1 Indoor unit LED error diagnosis

■ Error detection and reoperation

- If error occurs during the operation, badness is indicated by LED flickering and all operation is stopped except LED.
- When reoperating by remote controller and switch determine the error mode after normal operation.

■ Indoor unit LED lamp display at error detecting

Error mode	LED lamp						Remark
	Auto						
Power Reset	×	◑	×	×	×	×	
Error of the indoor unit sensor	×	×	◑	×	×	×	Applied indoor unit error display (Indoor unit display only during the operation)
Error of the indoor unit pipe sensor	×	◑	◑	×	×	×	Applied indoor unit error display (Indoor unit display only during the operation)
Error of the outdoor unit pipe sensor	×	◑	×	◑	×	×	The whole indoor unit error display Outdoor unit separated Display (Indoor unit display only during the operation)
Communication error (Transmitter, wired remote control)	×	×	◑	◑	×	×	Indoor unit door (Display is unrelated with operation)
Communication error between indoor units	×	◑	×	×	◑	×	Indoor unit display
Freeze prevention control (Errors occur during 6th detection)	×	×	◑	◑	◑	×	
Error of peripherals option set-up	×	×	◑	×	◑	×	
EEPROM ERROR	×	◑	◑	◑	×	×	
EEPROM OPTION ERROR	◑	◑	◑	◑	◑	◑	

◑ : Flickering × : Off

12-2-3 Outdoor Unit

If an error occurs during the operation, it is displayed on the outdoor unit PCB.

Display	Explanation	Remark
Er↔P0	High temperature of Discharge (Protection control)	Error about protection control of outdoor unit
Er↔P1	High temperature of outdoor heat exchanger (Protection control)	
Er↔P5	COMP DOWN to protect being frozen	
Er↔P6	Error of momentary power failure(Disappears when the unit is Off/On)	
Er↔t1	Error of OUT TEMP sensor (OPEN/SHORT)	Errors about outdoor unit sensor (OPEN/SHORT) Detection during the operation of indoor unit (Sensing and sending errors into the communication data)
Er↔t2	Error of temperature sensor in outdoor heat exchanger (OPEN/SHORT)	
Er↔t3	Error of Discharge TEMP sensor (OPEN/SHORT)	
Er↔E1	System Down caused by communication error after completion of tracking	Communication and indoor unit errors
Er↔E3	Error of float switch in indoor unit	Self-diagnosis of indoor and outdoor unit (x:indoor unit address)
Er↔E5	Error of setting option switches for optional accessories	
Er↔9x	OPEN/SHORT error of room sensor in indoor unit	
Er↔rx	OPEN/SHORT error of eva in sensor in indoor unit	
Er↔Ux	EEPROM option error	Displays of operating status
Er↔ux	Error of fan starting	
Er↔U5	Close error of electronic expansion valve in outdoor unit (Detected once or more times)	
tU Flicker	Below -5°C when cooling (Outdoor temperature)	
tO Flicker	Over 30°C when heating (Outdoor temperature)	
K1, K2, K3, K4, K5 Flicker		

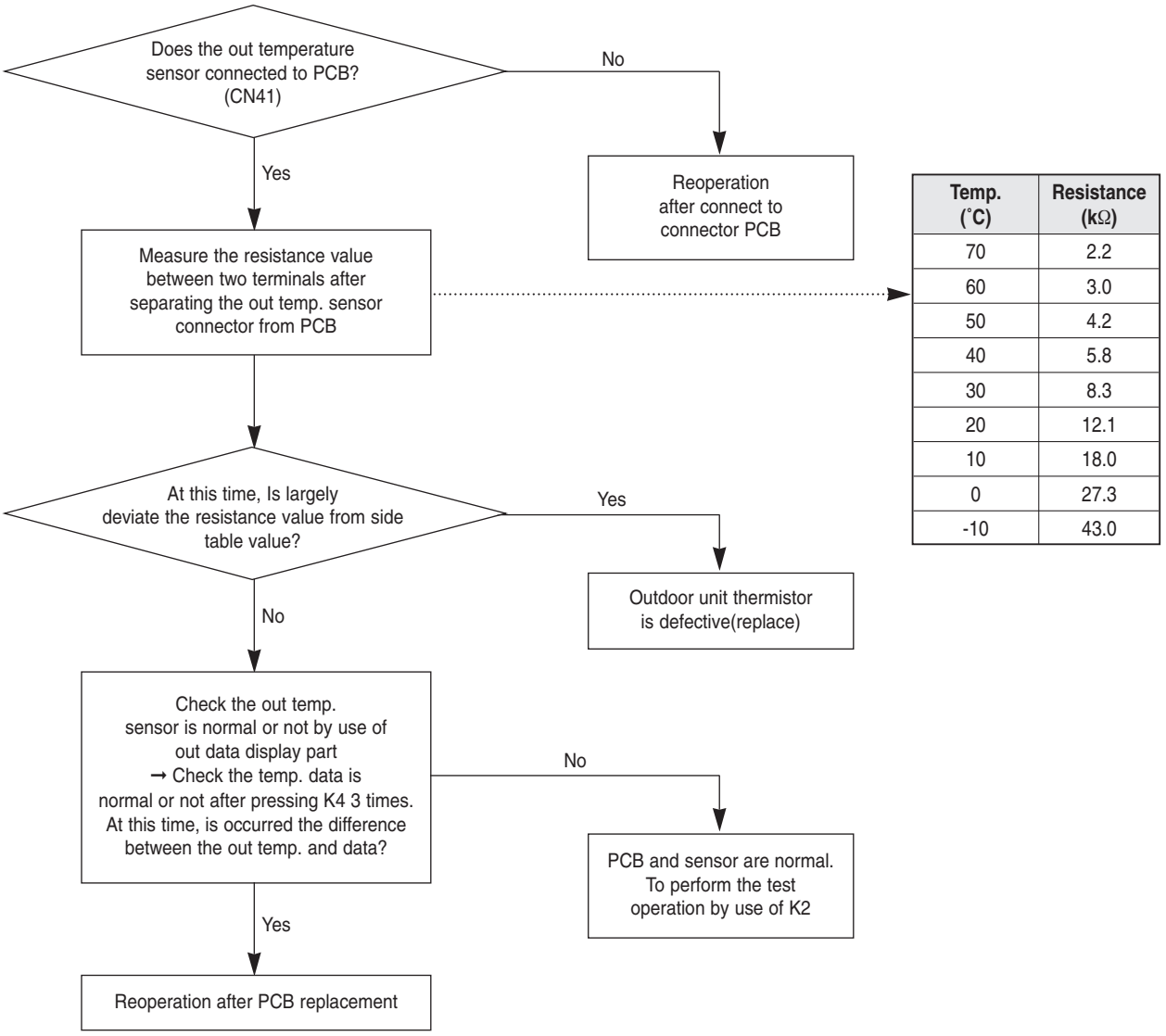
The order of priority : E1 → E2 → E3 → E5 → P0 → P1 → P4 → P5 → P9 → t1 → t2 → t3 → tu → to → G4 → G5 → E3 → qx → rx → vx → K1, K2, K3, K4, K5

- In case that the same error displays from multi-indoor units, the one having the faster address has the priority.

12-3 Sequence for trouble diagnosis

12-3-1 Outdoor temp. sensor(OPEN/SHORT)

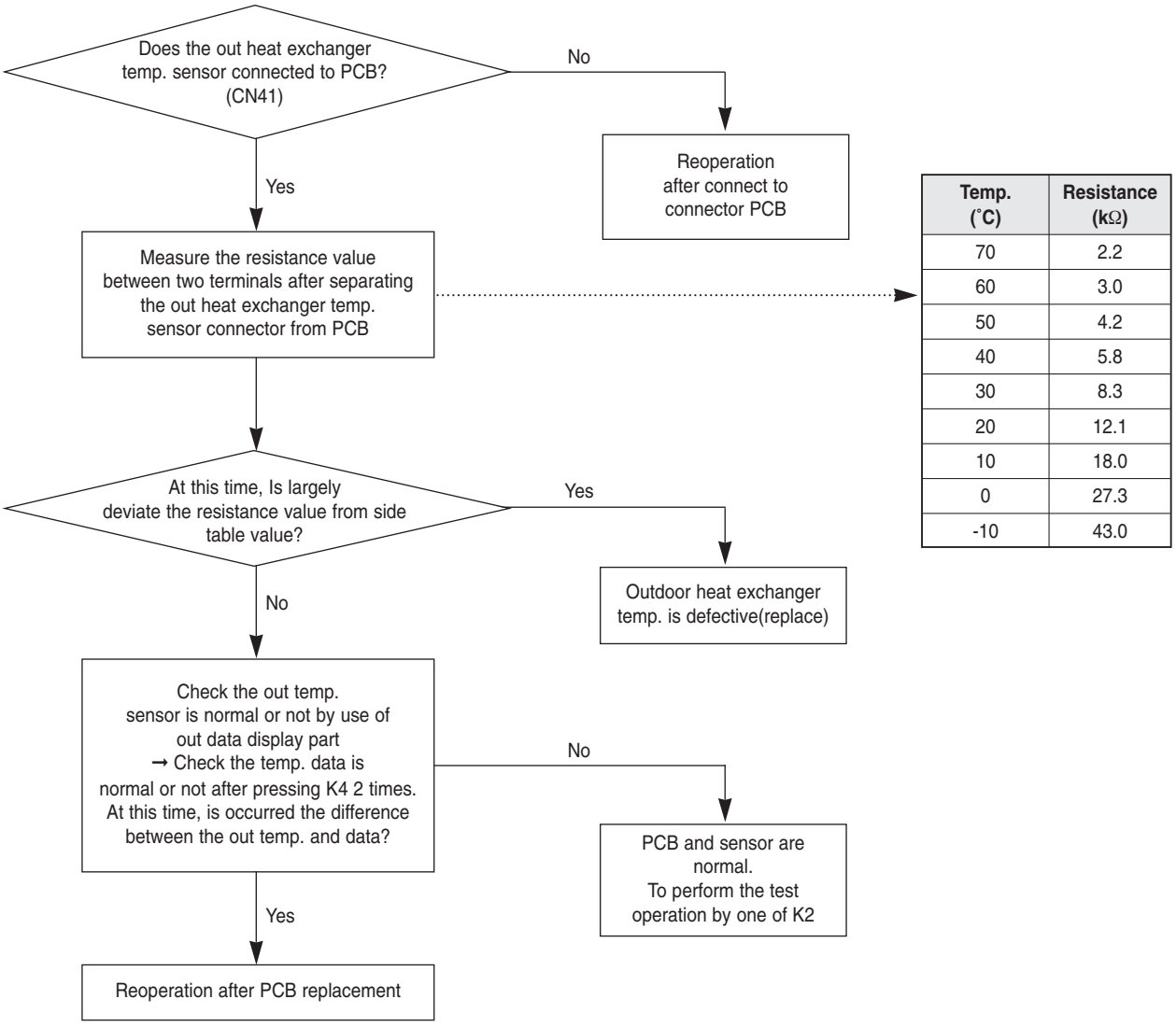
Outdoor unit display	Er→t 1 **(Outdoor temp. sensor OPEN/SHORT error)**
Indoor unit display	◑ (Operation) × (Timer) ◑ (Airflow) × (Filter)
How to determine	Disconnection and short of outdoor temp. sensor
Reason of error	Disconnection or leak of applied sensor



Temp. (˚C)	Resistance (kΩ)
70	2.2
60	3.0
50	4.2
40	5.8
30	8.3
20	12.1
10	18.0
0	27.3
-10	43.0

12-3-2 Outdoor heat exchanger temp. sensor error(OPEN/SHORT)

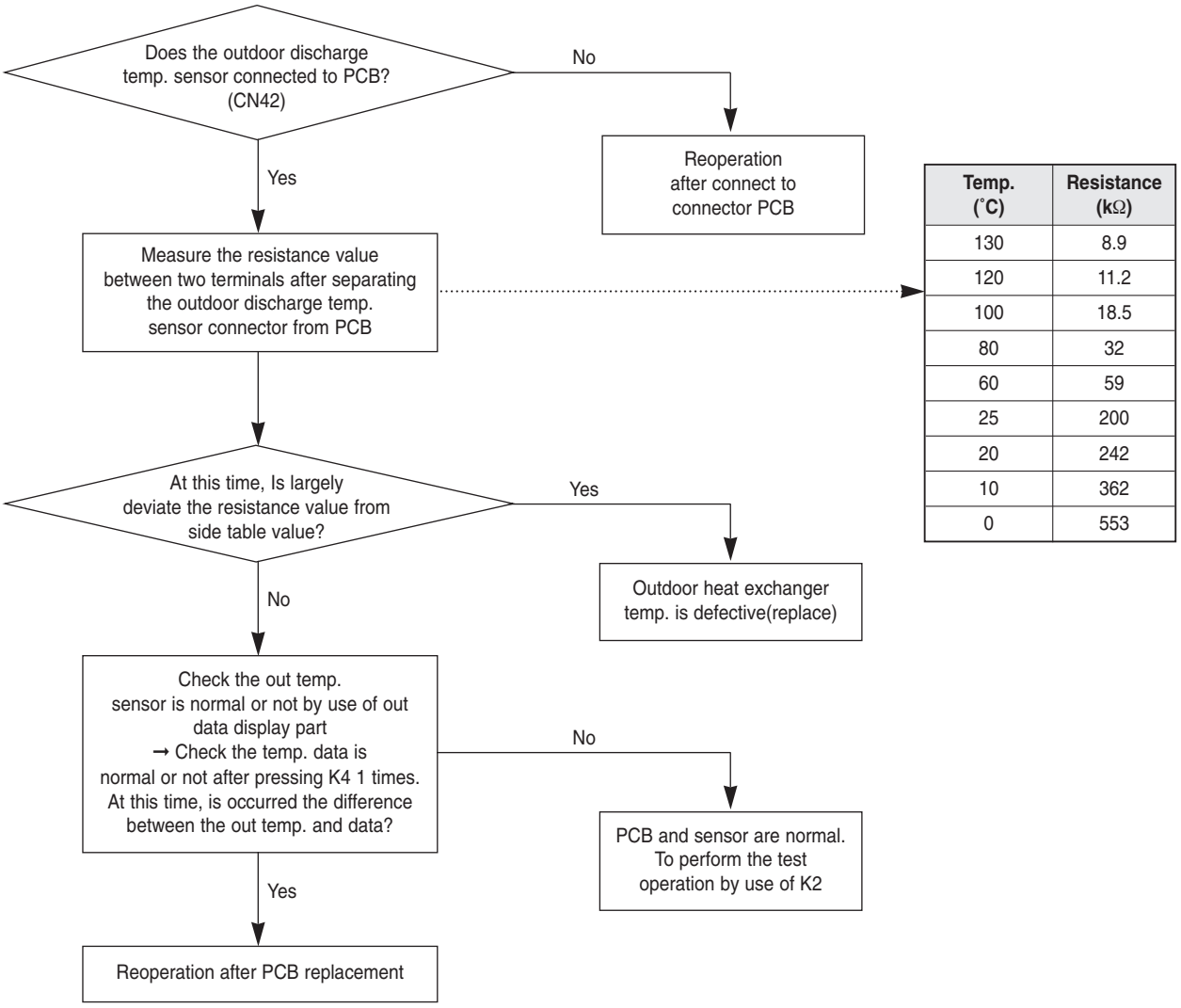
Outdoor unit display	Er→t2 **(Outdoor heat exchanger temp. sensor error(OPEN/SHORT)**
Indoor unit display	◑ (Operation) × (Timer) ◑ (Airflow) × (Filter)
How to determine	Disconnection and short of outdoor heat exchanger temp. sensor
Reason of error	Disconnection or leak of Applied sensor



Temp. (˚C)	Resistance (kΩ)
70	2.2
60	3.0
50	4.2
40	5.8
30	8.3
20	12.1
10	18.0
0	27.3
-10	43.0

12-3-3 Outdoor discharge temp. sensor error(OPEN/SHORT)

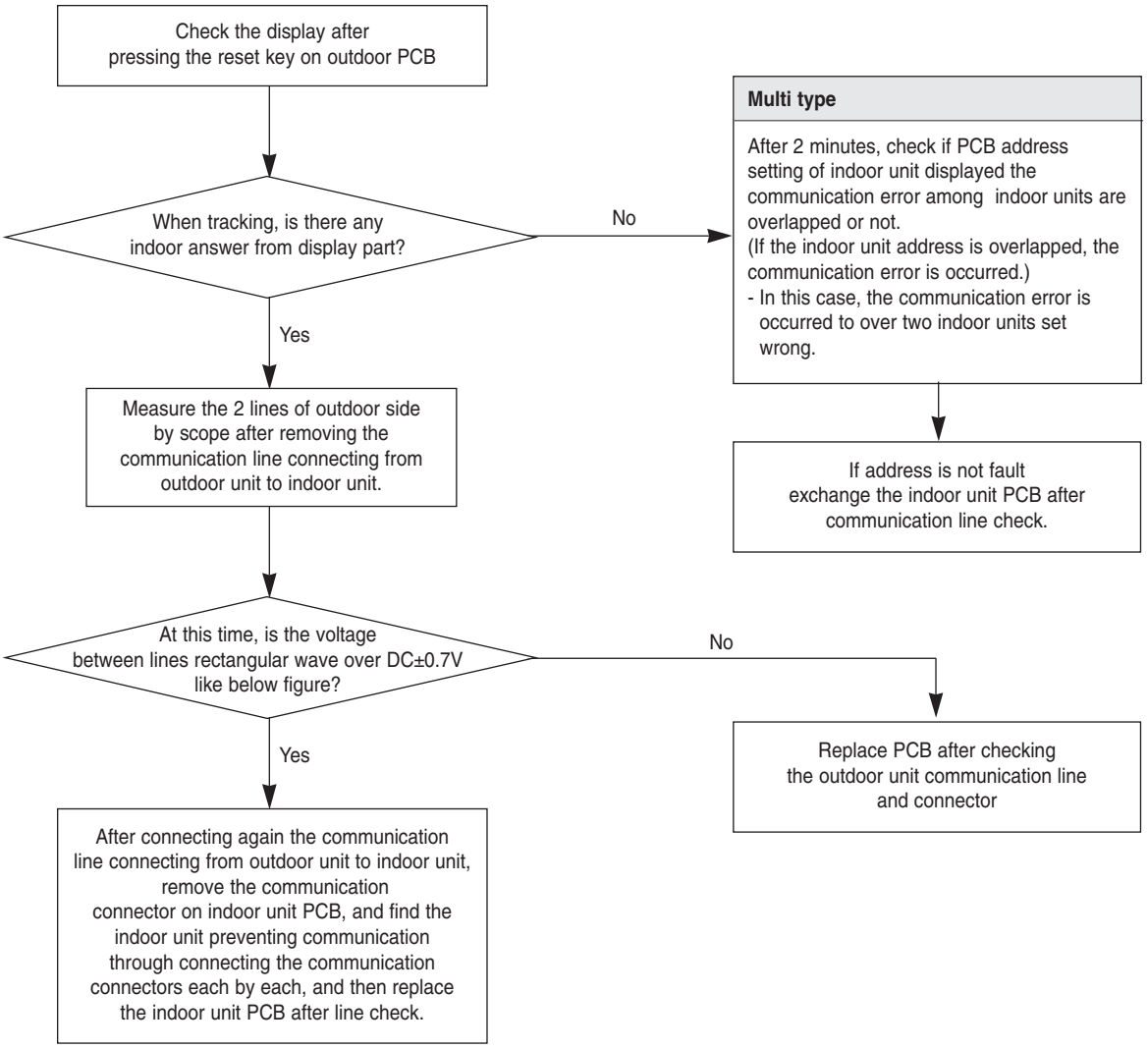
Outdoor unit display	Er→E3 **(Outdoor discharge temp. sensor OPEN/SHORT error)**
Indoor unit display	◑ (Operation) × (Timer) ◑ (Airflow) × (Filter)
How to determine	Disconnection and short of outdoor discharger temp. sensor
Reason of error	Disconnection or leak of Applied sensor

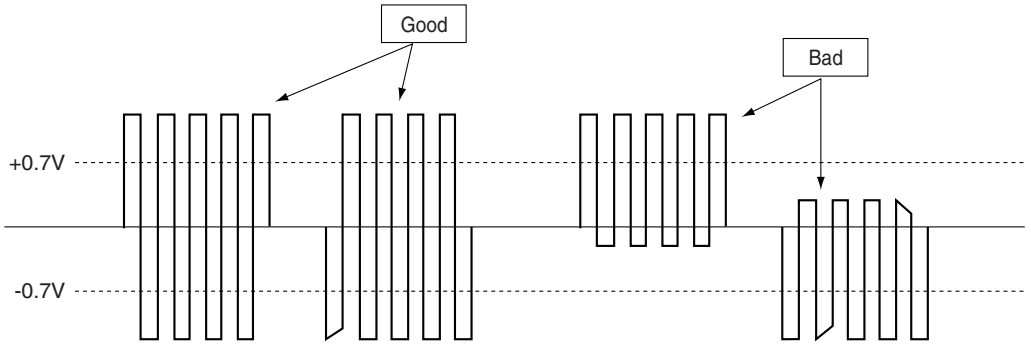


Temp. (˚C)	Resistance (kΩ)
130	8.9
120	11.2
100	18.5
80	32
60	59
25	200
20	242
10	362
0	553

12-3-4 Communication error during the operation

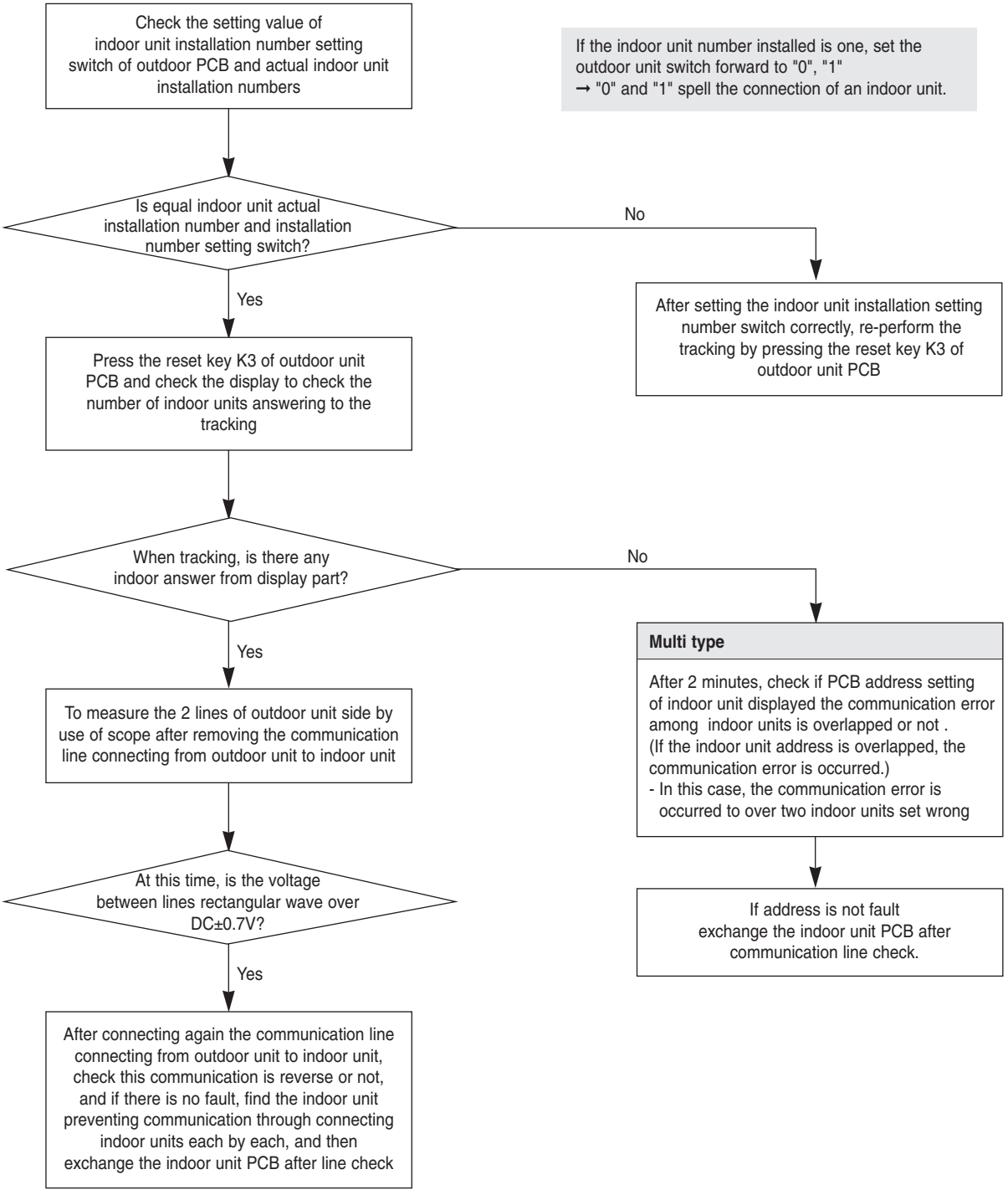
Outdoor unit display	Er→E1 **(Communication error during the operation)**
Indoor unit display	× (Operation) ◑ (Timer) ◑ (Airflow) × (Filter)
How to determine	Disconnection and short of communication lines
Reason of error	Communication error between the indoor unit and outdoor unit.





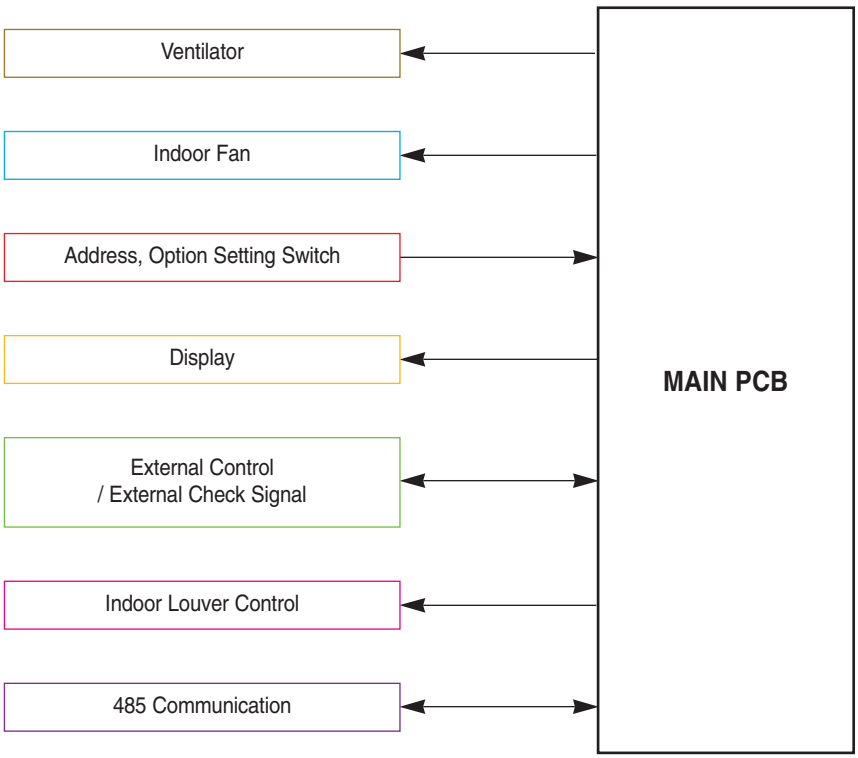
12-3-5 Communication error between indoor and outdoor after initial power input.

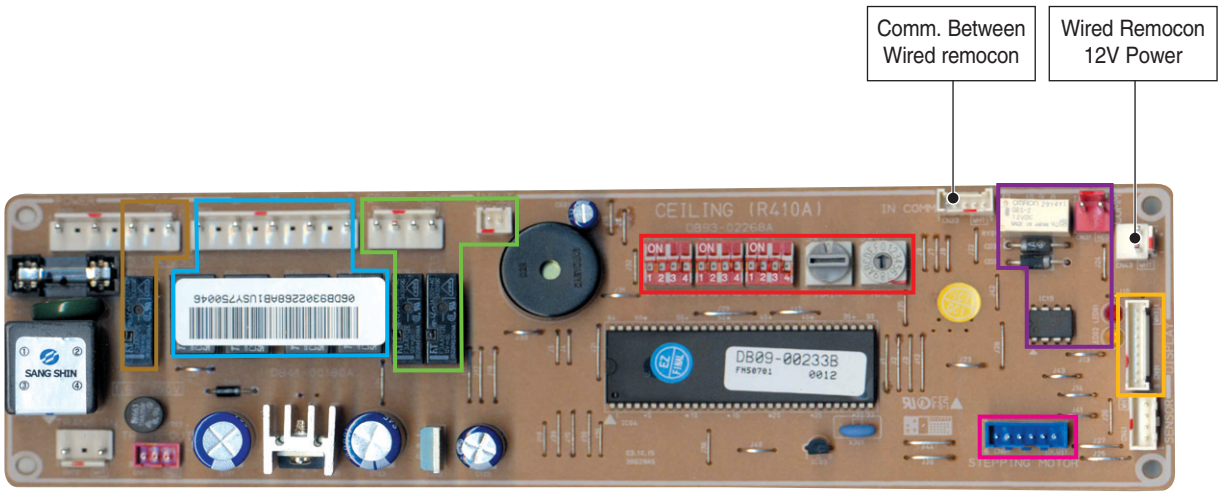
Outdoor unit display	Er→E2 **(Tracking error)**
Indoor unit display	× (Operation) ◑ (Timer) ◑ (Airflow) × (Filter)
How to determine	Mismatching the communicating indoor unit and setting switch indoor numbers When outdoor tracking
Reason of error	Communication error between the indoor unit and outdoor unit, and installation number switch setting miss



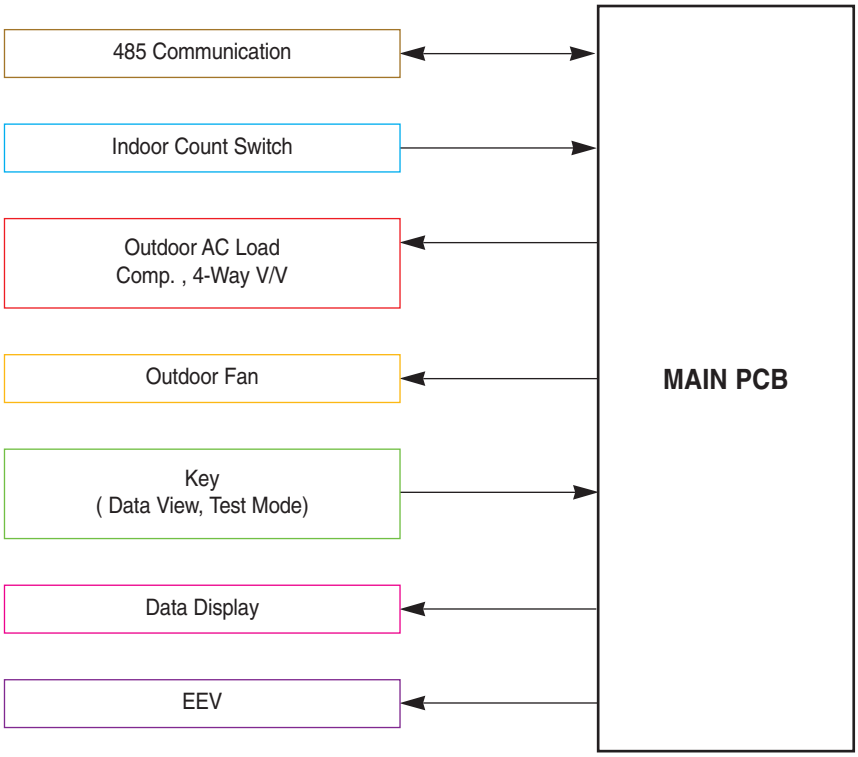
13. Block Diagram

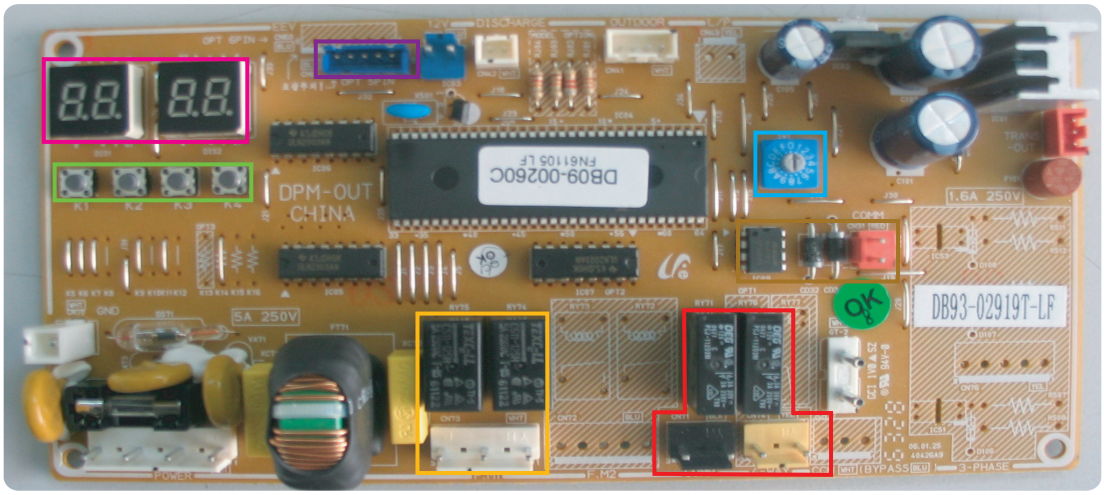
13-1 Indoor Unit





13-2 Outdoor Unit

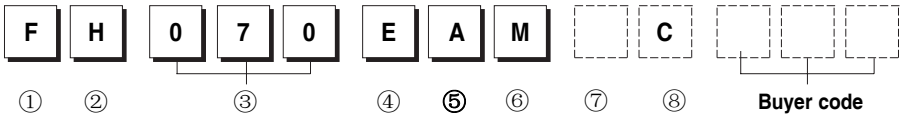




14. Reference Sheet

14-1 Index for Model Name

Model Code



① Product Type			
Indoor	Cassette	1-Way	K
		2-Way	G
		4-Way	C
		Ceiling	N
	Duct	Slim Duct	E
		Silhouette	D
		HSP	H
		Built-in	B
	Ceiling	-	F
	PAC	-	P
	Split	-	W
Universal Outdoor (DPM)			U

② Mode	
C/O	C
H/P	H
H/P+Heater	E
C/O+Heater	G
C/O+Hydronic	N

③ Capacity	
Btu	kWx10
9K	26
12K	35
14K	40
18K	52
24K	70
28K	82
32K	94
36K	105
44K	128
48K	140
60K	175
72K	210
80K	230
96K	280

④ Power Supply	
115V,60H	A
220V,60Hz	B
208~230V,60Hz	C
200~220V,50Hz	D
220~240V,50Hz	E
220V,60Hz,3ø	F
380~415V,50Hz,3ø	G
127V,50Hz	M
220~240,50/60Hz,1ø	N
380V,60Hz,3ø	H

⑤ Refrigerant	
R22	Z
R407C	C
R410A	A

⑥ Indoor/Outdoor Unit		
common	Indoor	A
	Outdoor	X
Universal (DPM)	Indoor	M
	Outdoor	N

⑦ Version	
BASE	-
DERIVE	1

⑧ Producing Area	
SEC	-
SSEC	C
TSE	T

14-2 Refrigerant Pressure during the Charging

Outdoor Unit Temperature	Low Pressure kg/cm²(PSIC)
Less than 20˚C	3.8 ~ 3.9(53~56)
Less than 24˚C	4.2 ~ 4.3(58~61)
Less than 28˚C	4.5 ~ 4.6(63~66)
Less than 32˚C	4.8 ~ 4.9(67~70)
Less than 36˚C	5.1 ~ 5.2(72~74)
Less than 40˚C	5.4 ~ 5.5(76~78)
Less than 44˚C	5.5 ~ 5.8(79~81)

14-3 Pressure & Capacity mark

■ Power/Heat

W	cal/s	kcal/h	Btu/h	HP	kg·m/s	lb·m/s
1	0.23885	0.85985	3.4121	0.001341	0.10197	0.73756
4.1868	1	3.6	14.286	0.0056146	0.42693	3.088
1.163	0.27778	1	3.9683	0.0015596	0.11859	0.85778
0.29307	0.06999	0.252	1	$3.9302x10^{-4}$	0.029885	0.21616
745.7	178.11	641.19	**2,544.4**	1	76.04	550
9.8067	2.3423	8.4322	33.462	0.013151	1	7.233
1.3558	0.32383	1.1658	4.6262	0.0018182	0.13826	1

14-4 The abbreviated technology words & the definition of technology terms

abbreviated technology words	definition of technology terms
COMP (Full name compressor)	One that compresses, especially a machine used to compress gases.
BLOWER	One that blows, especially a mechanical device, such as a fan, that produces a current of air.
FAN	A device for creating a current of air or a breeze.
ASSY CONTROL BOX (Full name : assemble control box)	A restraining device of air-condition, measure, or limit.
MOTOR	Something, such as a machine or an engine, that produces or imparts motion.
ASSY EVAP / ASSY COND (Full name : assemble evaporator / assemble condenser)	Heat exchanger; A device, used to transfer heat from a fluid on one side of a barrier to a fluid on the other side without bringingthe fluids into direct contact.

14-5 Q & A for Non-trouble

Classification	Class	Description
Cooling	**Q**	**The cooling is weak.**
	A	When it is hot outside, its cooling capacity decreases due to the increase of the ambient temperature. When the dust filter gets blocked or warm outside air gets in, the cooling capacity will decrease. So, make sure to clean the dust filter frequently, prevent heat loss by closing the doors and insulate the cooling area by using curtains, blinds, shades or window tinting.
	Q	**The cooling is good generally. But, it gets weak when it is considerably hot.**
	A	It occurs when the outdoor unit is exposed to direct sun light and heat-up air is not ventilated well. So, set up a sunblind over the outdoor unit and keep stuff away from the unit to increase the ventilation. When the cooling capacity decreases during a heat wave, clean the heat exchanger of the outdoor unit or spray some cold water to the heat exchanger to increase the cooling capability.
	Q	**The cooling is weak. Does it need refrigerant charging?**
	A	It is not correct charging refrigerant regularly. Except that you have moved in several times or the connection pipes are broken, the refrigerant does not run low. So, when refrigerant is additionally charged, it could be costly and cause a product's failure. When the refrigerant leaks, all of it will escape in a short time resulting in cooling failure and no water coming out of the drain hose. So, if water comes out from the drain hose, it indicates the normal operation of the product and it does not need refrigerant charging.
	Q	**It fails to do cooling.**
	A	When the air conditioner is set to Ventilation or the desired temperature is set higher than the current temperature, it fails to do cooling. In this case, select Cooling or set the desired temperature lower.
Leakage	**Q**	**It floods the floor.**
	A	Place the drain hose properly. When it is not placed properly, the drain water would flow back flooding the floor. So, straighten out the drain hose for the water to be drained well.
	Q	**Water drips at the drain connection (service valve) of the outdoor unit.**
	A	When a glass bottle is taken out of the refrigerator, moisture gets condensed on its surface due to the temperature differences. The same principle applies to the air conditioner. When cold refrigerant goes through the copper tube, moisture gets condensed on the surface of the tube and the connection areas. To prevent the water condensation, the pipes are insulated. But, the connection areas of the outdoor unit are not insulated for the purpose of maintenance or repair, and water gets condensed due to the temperature differences and drips down. Generally, it evaporates right away. But, when it drips much during muggy days, put a water pan on the floor.
	Q	**It leaks even though a drain pump is used.**
	A	It occurs when the drain pump is plugged out or it is out of order. Check the power of the drain pump and the position of the drain hose, and when the pump is faulty, contact the drain pump manufacturer. Samsung Electronics do not manufacture drain pumps. So, we are not able to correct the drain pump problems.
Smells	**Q**	**Whenever the air conditioner is turned on, it irritates my eyes and gives me a headache.**
	A	There are no components in the air conditioner irritating the eyes and sending out chemical smells. But, when the air conditioner is turned on, other smell sources are sucked into the air conditioner and get out of it. So, find and root out the smell sources. Generally, it occurs at a interior renovated place, a pharmacy, a gasoline handling place, a tire shop, a second-hand book shop or an electronic

Classification	Class	Description
Smells		component handling place; when its chemical or musty smells are sucked in and sent out, it can be misled that the air conditioner generates them. So, find and root out the problem or refresh the room frequently.
	Q	**Whenever the air conditioner is turned on, it stinks.**
	A	There are no components in the air conditioner sending out chemical smells. But, when the air conditioner is turned on, other smell sources are sucked into the air conditioner and get out of it. So, find and root out the smell sources. Generally, when the drain hose is taken out to the washing room or there are sources of smells such as a diaper bin, a shoe shelf or a socks bin, bad smells generate. Also, it occurs where glass cleaners or air fresheners are used; when they are sucked in interacting with dusts and moistures inside, bad smells generate. These kinds of organic materials noxious to human bodies. So, we recommend against the use of them.
	Q	**Whenever the air conditioner is turned on, it smells sour.**
	A	When the room is papered recently, its paste smells would be sucked inside. Also, when the air conditioner is installed in the study room of young boys loving sweat-generating activities such as the basketball, excessive sweats evaporate and get sucked into the air conditioner resulting in bad smells. So, find and root out the problem or refresh the room frequently.
	Q	**Whenever the air conditioner is turned on, it smells musty.**
	A	It is due to the improper keeping of the product after its use. When keeping the product, dry up the inside with the operation of Ventilation to prevent must. When the product is kept without drying up the inside with Ventilation, mold would grow inside resulting in must. So, open the windows and switch on the Ventilation function to get rid of the saturated smell inside.
	Q	**Whenever the air conditioner is turned on, it sends out bad smells such as stale smells.**
	A	It occurs generally when there are pet animals in the house. Their smells stay at the same place. But, when the air conditioner is turned on, the air gets circulated resulting in the circulation of the smells. So, find and root out the problem or refresh the room frequently.
	Q	**It sends out bad smells.**
	A	When the air filter is filthy, it could send out bad smells. So, clean the filter and ventilate the room with the windows open while operating the Ventilation function.
Operation	**Q**	**It won't start.**
	A	There is a power failure or it is plugged out. Also, check if the power distribution panel is switched off.
	Q	**It goes off during operation.**
	A	When the hot air does not escape properly, it goes off during operation. It occurs when it does not ventilate properly because the outdoor unit is covered, the back of the outdoor unit is blocked by a cardboard or a plywood panel, and the front of the outdoor unit is blocked by the closed window or other obstacles. Clear the above obstacles from the outdoor unit.
	Q	**It generally works properly. But, when it's considerably hot, it goes off during operation.**
	A	It occurs when the outdoor unit is exposed to direct sunlight and the hot air does not escape properly. Set up a sun blind over the outdoor unit and clear the neighboring obstacles from the outdoor unit to provide good ventilation. When it goes off frequently during a heat wave, it would prevent the turn-off and increase the cooling capacity cleaning the outdoor unit or spraying some water to the heat exchanger.

Q & A for Non-trouble (cont.)

Classification	Class	Description
Operation	Q	**The remote controller won't operate.**
	A	When the batteries run out or the transmitter or receiver of the remote controller is blocked by obstacles, change the batteries or keep the obstacles away from the controlling area. Also, the remote controller may not work under intensive light from a 3-wavelength lamp or a neon sign due to the EMI. In this case, take the remote controller closer to the receiver.
Installation	Q	**Who installs the air conditioner? (Relocation/Re-installation)**
	A	When relocating or re-installing the air conditioner, make sure to contact Samsung Electronics Service Center or Authorized Service Agent and have them to do the job. (If not, it could cause personal injury or product damage.) The cost for the relocation/re-installation of the air conditioner is subject to the customer's expense. There is a cost table. But, our service engineer needs to visit to total up the cost correctly. When you move in, make sure to contact Samsung Electronics Service Center or Authorized Service Agent in advance to streamline the process.
	Q	**Is it possible to install the outdoor unit outside?**
	A	It is possible to install it at a designated place in the apartment or on the rooftop nearby. But, it's illegal hanging an angle iron case with the outdoor unit in it outside the apartment. Also, it is illegal obstructing passers-by with the outdoor unit installed outside.
	Q	**What can be done to install the outdoor unit facing the road because it is a commercial building?**
	A	The following is an excerpt from Building Code going into effect from JUNE 1st 2005. "The exhaust pipe of a cooling or ventilation facility installed in a building adjacent to the streets of commercial or residential areas shall be installed higher than 2 m to prevent the exhaust air from blowing directly to passers-by and the current facilities shall be corrected by MAY 31st 2005." So, please install it higher than 2 m or not to blow the hot exhausting air directly to passers-by.
	Q	**What about installing a windscreen during installation not to blow hot air directly to passers-by?**
	A	When the hot air from the front of the outdoor unit is blocked, the product's performance will be affected and it will fail to operate properly. So, keep it at least 300mm away from its surrounding walls and give it good ventilation.

14-6 Cleaning Your Air Conditioner

To get the best possible use out of your air conditioner, you must to clean it to remove the dust that accumulates on the air filters.

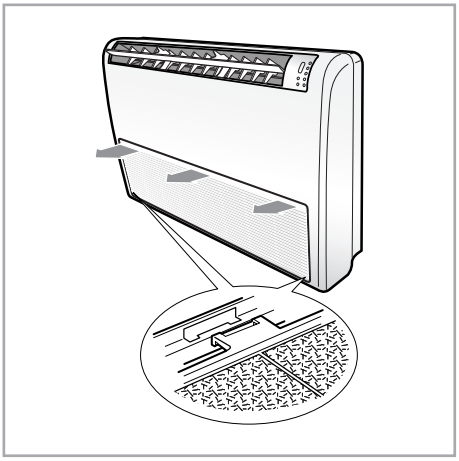
⚠ • Before cleaning your air conditioner, check if you have turned off the circuit breaker.

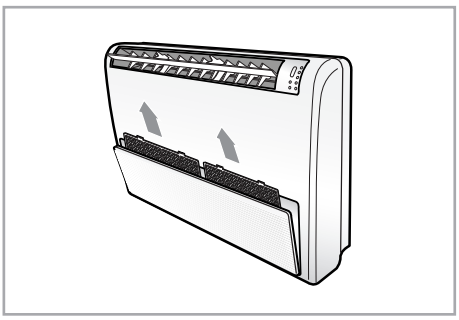
1. Open the front grille by pushing on both sides and center.

2. Pull the air filters in upward direction to remove them.
   Remove all dust from the air filters by vacuum cleaner, brush or by washing them with a detergent and warm water below 40°C.
   After washing, allow them to dry thoroughly in an area protected from sunlight.

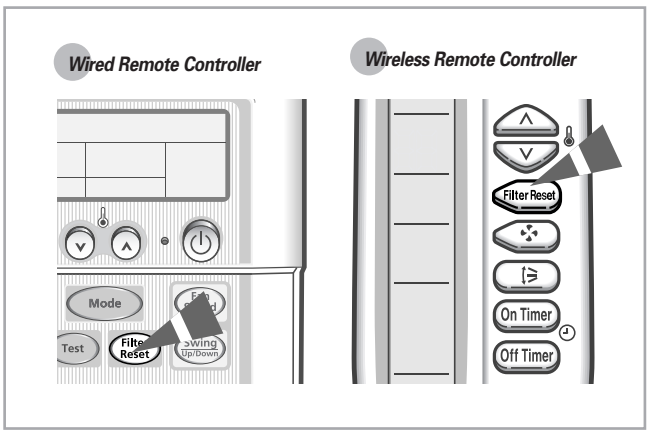
3. Insert the air filters to the front grille.

4. Close the front grille by pushing both sides and center.





Note : • If you have not used the air conditioner for a long period of time, set the fan going for 3 or 4 hours to dry the inside of the air conditioner thoroughly.
• If you don't clean the air filter at least every 2 weeks, its performance may be reduced and noise may increase.
• After cleaning the air conditioner, press the Filter Reset button.



14-7 Installation

14-7-1 Before Installation

Keep the air conditioner outlet and inlet free from its surroundings.
In case of installation, keep the symmetry and fix it to prevent vibration.
The pipe length shall meet the standard as far as possible.

14-7-2 Installation Procedure

■ Location

Install the product in an area to guarantee the best cooling effect, convenience of piping and electric work, and inexistence of vibration or wind.

■ Wall Drilling

Drill the wall downward in a diameter of 60 to 65mm.

■ Fixing Indoor Unit & Outdoor Unit

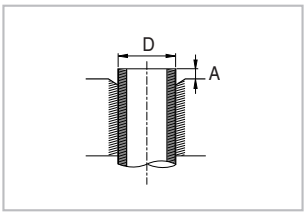
Fix the air conditioner indoor unit securely. Secure the outdoor unit in a suitable position.

■ Pipe Spooling & Connecting

You shall cut the pipe with a pipe cutter and grind all the burrs of the cut surface.
Pipe expansion may continue until the pipe surface becomes uneven or torn apart.
Be sure to use a torque wrench to tighten pipes or flare nuts.

<Torque & Depth>

Outer Diameter(D)	Torque(kgf·cm)	Depth(A)
6.35mm(1/4")	140~170	1.3mm
9.52mm(3/8")	250~280	1.8mm
12.70mm(1/2")	380~420	2.0mm
15.88mm(5/8")	440~480	2.2mm



■ Leak Test

Put an inert gas like nitrogen in the outdoor unit pipe and put soap bubbles or other test liquids on the pipe surface for the leak test.

■ Drain Hose Connecting

Install the drain hose downward to drain water naturally. Be sure to pour water into the hose to check if it drains well.

■ Electric & Earth Work

Electric and earth work shall meet the "Electric Facility Technology Standard" and the "Internal Wire Regulation" of the Electric Business Laws.

■ Inspection & Trial Run

Upon completion of the tests, you shall make a trial run while you explain the main functions of the air conditioner to finish the installation.

14-8 Installation Diagram of Indoor Unit and Outdoor Unit

14-8-1 Air-Purge Procedure

1) Connect each assembly pipe to the appropriate valve on the outdoor unit and tighten the flare nut.

2) Connect the charging hose of low pressure side of manifold gauge to the packed valve having a service ports shown at the figure.

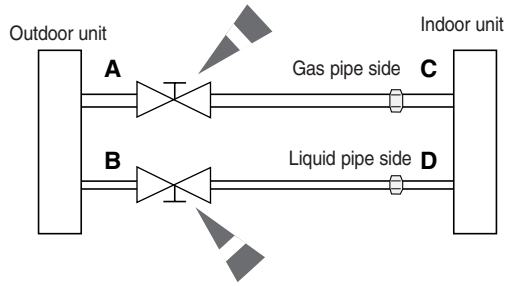
3) Open the valve of the low pressure side of manifold gauge counter-clockwise.

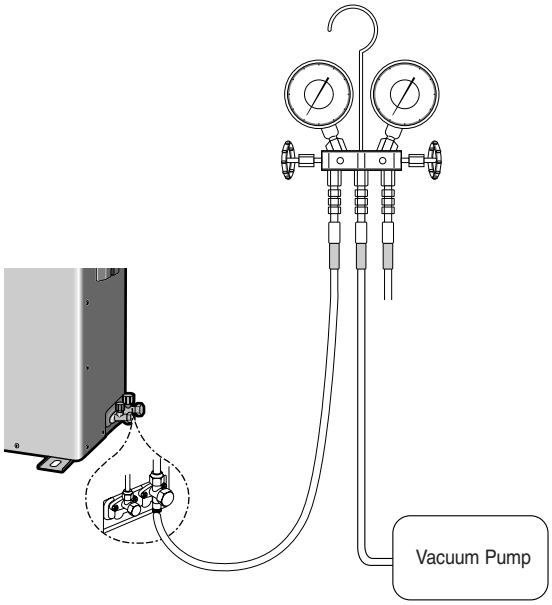
4) Purge the air from the system using vacuum pump for about 30 minutes.
   - After that, please recheck that pressure is stabilized.
   - Close the valve of the low pressure side of manifold gauge clockwise.
   - Remove the hose of the low pressure side of manifold gauge.

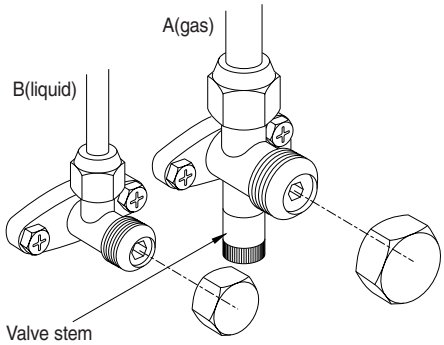
5) Set valve cork of both liquid side and gas side of packed valve to the open position.

6) Mount the valve stem nuts to the 2-Way and 3-Way valve. And mount the service port cap to 3-Way valve.

7) Check for gas leakage.
   - At this time, especially check for gas leakage from the 3-Way valve's stem nuts, and from the service port cap.







14-8-2 "Pump down" Procedure

Pump down will be carried out when an evaporator is replaced or when the unit is relocated in another area.

1) Remove the caps from the 3-Way valve.

2) Turn the 3-Way valve clockwise to close and connect a pressure gauge (low pressure side) to the service valve, and open the 3-Way valve again.

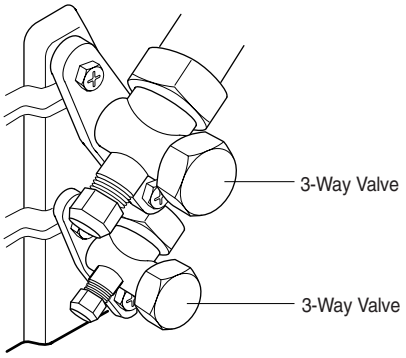
3) Set the unit to cool operation mode.
(Check if the compressor is operating.)

4) Turn the 3-Way valve clockwise to close.

5) When the pressure gauge indicates "0" turn the 3-Way valve clockwise to close.

6) Stop operation of the air conditioner.

7) Close the cap of each valve.



Remarks

Relocation of the air conditioner

- Refer to this procedure when the unit is relocated.
- Carry out the pump down procedure (refer to the details of 'pump down').
- Remove the power cord.
- Disconnect the assembly cable from the indoor and outdoor units.
- Remove the flare nut connecting the indoor unit and the pipe.
- At this time, cover the pipe of the indoor unit and the other pipe using a cap or vinyl plug to avoid foreign material entering.
- Disconnect the pipe connected to the outdoor unit.
  At this time, cover the valve of the outdoor unit and the other pipe using a cap or vinyl plug to avoid foreign material entering.
- Make sure you do not bend the connection pipes in the middle and store together with the cables.
- Move the indoor and outdoor units to a new location.

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